

INCREASING THE USE OF SPECIFIC DIRECTIVES TO IMPROVE COMPLIANCE
IN PRESCHOOL CHILDREN WITH LANGUAGE AND BEHAVIOR DISORDERS

By

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Abstract of Dissertation Presented to the Graduate School
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The purpose of this study was to investigate the effects of increased use of specific directives by teachers on the compliance of preschool children with language and behavior disorders. Four teacher/child dyads were selected to participate in the research. The teachers were employed by the Head Start program and held Florida Child Development Associate (CDA) certification. The participating children exhibited behavior problems and language delays. The teachers were trained to increase their use of specific directives when instructing their students. Data were collected regarding teacher implementation of the use of specific directives and child compliance using a single subject multiple baseline design across subjects. Analyses of the data indicated that the teachers increased their use of specific directives following training and that as teacher use of specific directives increased child compliance increased as well. Generalization probes demonstrated that the teachers' use of specific directives generalized to an

untrained setting. In addition, maintenance probes revealed continued use of specific directives eight weeks after the conclusion of the intervention phase of the study. Further, results of social validation measures were favorable in that teachers reported satisfaction with the intervention and agreed that it was important, effective, and practical.

CHAPTER 1 INTRODUCTION

There is growing concern regarding the incidence of emotional disorder in our nation's schools. Over the past several decades the number of students identified as having emotional disorders has increased significantly (U.S. Department of Education, 1998). Of particular concern is the progressive nature of this disorder and the growing incidence among preschool-age children. Webster-Stratton (1997) cited that between 7% and 25% of preschool children demonstrate externalizing behavior problems suggesting that emotional disorders are relatively common among this age group. Further, researchers have suggested a strong correlation between behavior problems in preschool-age children and adolescent behavior problems (Del'Homme, 1996). Because of the progressive nature of emotional disorders, these children may be placed in special education programs as they move through the education system (Brown et al., 1995). In fact, it is estimated that approximately 50% of preschool-age children demonstrating problem behavior continue to exhibit emotional disorders throughout their school careers and eventually receive special education services for this disability (Webster-Stratton). Sadly, once identified, these students are typically placed in restrictive educational settings and are unlikely to return to the general education classroom (Kauffman, 1995). Table 1-1 presents statistical data regarding the placement of students with emotional disturbances illustrating the prevalence of emotional and behavioral disturbances in Florida's Alachua County, the state of Florida, and nationally.

Table 1-1: Statistical Data on Placement of Students with Emotional Disturbance

| Placement | Outside Regular Class | | | Special Facility | Residential Facility | Home/Hospital |
|-----------|-----------------------|----------|--------|------------------|----------------------|---------------|
| | < 21% | 21 - 60% | > 60% | | | |
| Alachua | 22.88% | 30.65% | 30.37% | 13.14% | .03% | <. 01% |
| Florida | 36.74% | 20.41% | 37.65% | 4.79% | .21% | .20% |
| National | 26.74% | 23.39% | 31.79% | 13.14% | 3.63% | 1.30% |

Source: U.S. Department of Education, 2001 & Florida Department of Education, 2000

The negative effects of emotional disorders do not end with high school graduation but continue into adulthood. According to Walker et al. (1995), antisocial children are at severe risk for long-term negative consequences such as school drop out, low employment rates, drug and alcohol abuse, relationship problems, and higher hospitalization and mortality rates. Among these negative consequences, the U.S. Department of Education (1994) also reports higher risk of incarceration. According to the Office of Special Education Programs, "Failure to address the needs of students with emotional disturbance is portent for poor community results as well as poor academic results" (U.S. Department of Education, 1998, p. 7). This failure may begin in the preschool years.

Emotional disorders develop over time beginning with children's early exposure to a number of family risk factors, school risk factors, and child risk factors (Kamps, Kravits, Stolz, & Swaggert, 1999; Webster-Stratton, 1997). According to the 23rd Annual Report to Congress (U.S. Department of Education, 2001) poverty is a significant family risk factor. It is the single greatest predictor of academic and social failure in our schools (Ryland, 1997). Children who live in poverty often begin school with less exposure to

print materials, less vocabulary, and less practice at following complex directions (Hart & Risley, 1995). From the first day of school, these students begin experiencing academic and social failure at a higher rate than their peers (Coleman & Vaughn, 2000). The difficulties these children encounter often set in motion a cycle of increased negative interaction, punishment, and decreased academic time with teachers (U.S. Department of Education, 2001).

Decreased academic time with teachers and failure to adjust instruction to the needs of students are school risk factors that impact children with behavior problems. Research has demonstrated that increased academic time and effective instructional practices can promote the success of these students (Nelson, Johnson, & Marchand-Martella, 1996). Further, the U.S. Department of Education has stated that students with behavior problems require effective instruction, supportive environments, and continuous feedback in order to succeed in their school careers (U.S. Department of Education, 2001).

An important child risk factor for behavior difficulties is the presence of language delay. Researchers have revealed that between 50% and 80% of children with behavioral disturbances exhibit significant language deficits (Camarata, Hughes, & Ruhl, 1988; Cohen, Davin, Horodezsky, Lipsett, & Isaacson, 1993; Gualtieri, Lorient, Bourgonien, & Saleeby, 1983; Ruhl, Hughes, & Camarata, 1992; Warr-Leeper, Wright, & Mack, 1994). In addition, a substantial number of children with language disorders display behavior problems (Baker & Cantwell, 1982, 1987; Baker, Cantwell, & Mattison, 1980; Beitchman, Nair, Clegg, Ferguson & Patel, 1986). Thus, it is likely that a child with one of these disorders will exhibit the other.

A significant number of preschool children exhibit behavior difficulties and often continue to exhibit these problems into adolescence. As the incidence of behavior problems continues to increase, the occurrence of resulting negative consequences becomes more likely as well. Therefore, awareness of risk factors and early prevention and intervention are imperative to the future success of these children.

Rationale of the Study

Exposure to family, school, and child risk factors such as poverty, difficulty with teacher and classroom interactions, and language delay can lead to development of behavior disorders in children. Child participants in this investigation were enrolled in Head Start classrooms and may be exposed to many of these risk factors.

Poverty, a family risk factor, is prevalent in families served by Head Start. In 2001, Head Start served over 840,000 three- and four-year-old children from low-income families with 77% of Head Start families earning an annual income of less than \$15,000 (Head Start Bureau, 2002). A considerable number of children in Head Start also exhibit language delays, an important child risk factor. A recent study examining the characteristics of children enrolled in Head Start classrooms revealed that this population is at greater risk of developing language and behavior problems than children in the general population (Kaiser, Hancock, Cai, Foster, & Hester, 2000). In addition, a school risk factor that may be experienced by these children involves insufficient teacher preparation or training. Early childhood educators often lack the knowledge and training to prevent and remediate problem behaviors in young children at risk for emotional disorders (Buscerni, Bennett, Thomas, & Deluca, 1995). At the 4th Annual Head Start Conference (Conroy, Brown, & Brown, 1998), participants named serving young

children with significant behavior problems in inclusive early childhood programs as one of their biggest challenges.

Although behavior problems are a significant challenge to Head Start teachers, and children enrolled in Head Start are likely to display behavior and language problems; teachers, parents, and other professionals are often unaware that language issues are relevant to children's behavioral functioning (Gallagher, 1999). For example, teachers may interpret noncompliance resulting from an inability to comprehend instructions as oppositional behavior or may not understand the difference between nonverbal communicative actions and physical aggression. As a result, children with behavior problems may also have language disorders that are not identified or, if recognized, the two problems may be treated separately. Language is infrequently seen as a necessary component of intervention planning for many children who have behavior difficulties. Likewise, language intervention seldom addresses classroom behavior.

However, teachers and students must learn to communicate effectively with one another in order to eliminate communication-related behavior problems. Therefore, teachers and other professionals need to be aware of the coexistence of behavior difficulties and language problems and need to incorporate strategies that consider the interrelation of these disorders into their interactions. Unfortunately, there is a lack of intervention research which offers proven intervention strategies for use with preschool children who exhibit these difficulties.

This study addresses these serious issues by increasing teachers' knowledge and understanding of the interrelation of behavioral disorders and language difficulties and by directly impacting the procedures available for remediation of noncompliance in young

children with or at risk for developing behavioral disorders served in inclusive early childhood settings. More specifically, the investigation involves training Head Start teachers to use specific directives when instructing their students with language and behavior disorders to determine the impact of the use of specific directives on compliance.

Statement of the Problem

One behavior problem exhibited by young children is noncompliance. An area that is consistently linked to the existence of such behavioral problems is the presence of language deficits. Miscommunications between the teacher and student may contribute to noncompliance and other behavior problems that occur in the classroom. Therefore, providing teachers with strategies for more effectively communicating with their students may reduce problem behaviors in the classroom. There is limited research, however, on intervention strategies that consider the interrelation of language delays and behavior problems, and there is a paucity of research providing strategies for teachers to use to prevent or reduce problem behavior in young children with receptive language delays.

The purposes of this study were twofold. First, the study proposed to provide Head Start teachers with an overview of language disorders and to train them to use specific directives when instructing their students with language and behavior problems. Second, the study proposed to investigate the efficacy of using specific directives to improve compliance in young children.

Purpose of the Study

This study was designed to train teachers in four Head Start classrooms to increase their use of specific directives when instructing their students with language and behavior

problems and to examine the effects of the use specific directives on compliance in preschool children. The following questions were addressed:

1. Will preschool teachers who hold at least Florida Child Development Associate (CDA) certification increase their use of specific directives following training?
2. What are the effects of increased teacher use of specific directives on compliance in preschool children with language and behavior difficulties?
3. If specific directives increase after training, will the teachers' use of specific directives generalize to an untrained setting?

Definition of Terms

Behavior disorder: Participating children were considered to have a behavior disorder if their behavior was rated significant or very significant by their teacher using a behavior rating scale. Problem behaviors typically reported by participating teachers included noncompliance, aggression, difficulty attending, difficulty controlling anger, and impulsivity.

Compliance: Compliance was coded if the student initiated action to carry out the teacher's request and accurately completed the task.

Expressive language: Expressive language is a person's ability to convey information through spoken, signed, or written communication. Children scoring more than 1 standard deviation below the mean on expressive portions of standardized tests were considered to have an expressive language delay.

Noncompliance: Noncompliance was coded if the student did not initiate action to carry out the teacher request or if the student incorrectly or partially completed the task.

Nonspecific directive: A nonspecific directive was scored if the teacher gave an instruction that did not explicitly name the action to be taken by the child, named an action that would take several steps to complete, was worded awkwardly, or used complex sentence structure. For example, if the teacher said to the child, “clean up your area” or “I am waiting for my friends to get quiet,” a nonspecific directive was coded. Additional examples of nonspecific directives are “go to the reading area, choose a book, then sit on your name,” “use your walking feet,” and “if you have not already washed your hands, go to the sink.”

Receptive language: Receptive language is a person’s understanding of the information received through spoken, signed, or written communication. Children scoring more than 1 standard deviation below the mean on receptive portions of standardized tests were considered to have a receptive language delay.

Specific directive: A specific directive was coded if the teacher gave explicit one-step instructions that clearly named the action to be taken by the child. For example, if the teacher said to the child, “put the markers in the basket” or “get a pair of scissors,” a specific directive was scored.

Delimitations

This study has six delimitations. First, the investigation was restricted geographically to Alachua County located in the north central portion of the state of Florida. Second, the study included only preschool age children. In addition, only teacher/child dyads from Head Start programs in four public elementary schools were used. Fourth, only teachers holding at least Florida CDA certification were included in the research, and only students who demonstrated receptive language delays and behavior

difficulties participated. Fifth, the investigator provided all of the training and coaching implemented in the study. Finally, the use of specific directives was the only instructional strategy implemented.

Limitations

There were several limitations concerning the generalization of results. First, the results are limited by subject selection. Since only teacher/child dyads in one Florida school district were represented, care should be taken when extrapolating results of the study to students or teachers who live outside of Alachua county. Further, the Head Start students in this study exhibited receptive language delays and behavior difficulties. Caution should be exercised when extending the findings to students in other types of educational settings, grade levels, or disability categories. Finally, increasing the use of specific directives to improve compliance was the focus of this investigation; results should not be generalized to other types of instruction.

Summary and Overview

The increasing number of students being identified in the nation's schools as having emotional and behavioral disorders is of serious concern. These students are often placed in restrictive special education settings, and it is unlikely that they will return to general education environments. Further, these students are at risk for long-term negative consequences such as school drop out and drug and alcohol abuse. Because emotional and behavior disorders often begin in young children and may lead to numerous negative outcomes, early intervention and prevention are vital.

The presence of language deficits is one risk factor that is frequently present in children with behavior difficulties. In fact, the coexistence of language and behavior

difficulties has been well established in the literature. However, research which considers the interrelation of receptive language deficits and behavior problems is noticeably lacking. Efforts to intervene early in the progressive development of emotional disorders should take into account this interaction and should include the identification of effective instructional strategies to be used by teachers of young students exhibiting or at risk for developing these disabilities.

It was the intent of this study to contribute information regarding the effectiveness of teacher use of specific directives to improve the compliance of young children with language and behavior difficulties. A review of literature relevant to this investigation is presented in Chapter 2. The methodology used for the research is discussed in Chapter 3. The results and their implications are reported in Chapters 4 and 5.

CHAPTER 2

REVIEW OF LITERATURE

As discussed in the previous chapter, many children who exhibit behavior problems also demonstrate language delays, and a significant number of children who exhibit language disorders also demonstrate behavior difficulties (Baker & Cantwell, 1982, 1987; Baker et al., 1980; Camarata et al., 1988; Cohen et al., 1993; Gualtieri et al., 1983; Ruhl et al., 1992; Warr-Leeper et al., 1994). It is possible that preschool students with language delays exhibit behavioral difficulties such as noncompliance as a result of their receptive language deficits including a lack of understanding of directions and an inability to seek clarification (Sanger, Mang, & Shapera, 1994). To assist teachers in educating this population, it is necessary to identify instructional strategies that are effective for students with language and behavior problems. This study was designed to determine the effectiveness of a strategy that considers this interrelation and to determine if teachers will use the strategy after attending training.

The purpose of this chapter is to discuss the theoretical basis for the investigation and to present a review of related professional literature. The chapter includes five sections. First, the conceptual framework underlying this investigation is presented. Second, literature evidencing the coexistence of language and behavior difficulties is discussed. Next, literature discussing teacher instruction as it relates to comprehension and compliance is reviewed. Additionally, a brief overview of literature regarding the

Head Start program and teacher training is provided. Last, a rationale for single subject methodology is presented.

Conceptual Framework

A schematic of the conceptual framework underlying this investigation is presented in Figure 2-1. This framework is influenced by the works of Bronfenbrenner (1979) and Kaiser and Hester (1997).

Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1979) focuses on child development within the context of environment. In his theory, Bronfenbrenner describes four layers or systems of a child's environments. The microsystem is the setting most directly impacting the child and includes environments such as the family, school, neighborhood, or childcare center. The mesosystem consists of the linkages among these settings such as the connection between the child's teacher and his parents. The exosystem is made up of the larger social system that affects the child but does not directly impact him such as the parent's workplace or available community-based family resources. Finally, the macrosystem, the outermost layer of the child's environment, is comprised of cultural values, customs, and laws. According to Bronfenbrenner, interactions between the child and his environment, particularly the microsystem, shape the child's development.

The Conceptual Model of Risks (Kaiser & Hester, 1997) emphasizes risk factors that have been consistently associated with the development of conduct disorders in children. These risk factors include environmental factors, parent characteristics, and child characteristics particularly the co-occurrence of communication problems and behavior difficulties. Living in poverty is emphasized by Kaiser and Hester as an

environmental factor highly correlated with the development of problem behavior. Environmental stress, depression, and limited access to prenatal, perinatal, and childhood healthcare are critical variables associated with mental health outcomes for children living in poverty. Dysfunctional parenting is a parental characteristic contributing to childhood behavioral disorders. Parenting that sets into motion coercive cycles of negative behavior by the parent and the child appears to promote antisocial behavior in the child. In addition, specific child characteristics are also predictive of behavior difficulties. Children with behavior problems frequently present a history of short attention span, impulsivity, poor self-control, hyperactivity, and difficulties with language and communication. According to Kaiser and Hester, the presence of these factors places children at high risk for the development of behavior difficulties.

The conceptual framework underlying this investigation incorporates components of the frameworks of Bronfenbrenner (1979) and Kaiser and Hester (1997). As in Bronfenbrenner's ecological model, the child is the focus of this framework. The characteristics of the child, including communicative and behavioral characteristics, and environmental factors such as parent characteristics, stress, and poverty are, as in the Model of Risks, an integral part of the framework. The characteristics of the child (i.e. the presence of a language disorder) and the child's environment consistently interact to impact the child's development. As the child enters the microsystem of school, he encounters personnel who use particular instructional and behavioral strategies. The interactions between the child and school personnel, referred to as the mesosystem in Bronfenbrenner's model, influence the child's behavior and impact outcomes. For example, if the instruction used by a teacher is effective it may result in appropriate

behavior and positive interactions between the child and teacher leading to productive student outcomes. However, for some children with language difficulties the interaction may be weak due to the difficulty the child has in understanding the teacher's requests. In turn, the child's responses may be inappropriate and consequently viewed as problem behavior setting up a cycle of negative interactions and leading to undesirable student outcomes.

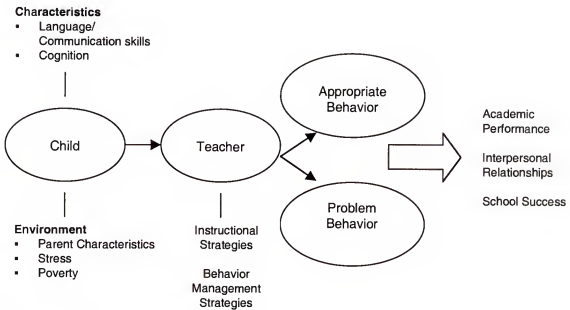


Figure 2-1: Conceptual Framework

In keeping with this framework, the investigation provides a structure for selecting participants with language and behavior problems who are served by Head Start and are, therefore, necessarily at risk due to environmental factors such as the low socioeconomic status of the family. The investigation involves training the teachers of these children to use specific instructional strategies thus leading to more effective interactions and improved compliance in their students. The appropriate behavior of students ultimately ensures a greater likelihood of school success.

Coexistence of Language and Behavior Disorders

Research conducted over the last 20 years provides convincing evidence of a correlation between language and communicative competence and emotional/behavioral disorders (Baker & Cantwell, 1982, 1987; Camarata et al., 1988; Cantwell, Baker & Mattison, 1979; Cohen et al., 1993; Gualtieri et al., 1983; Ruhl et al., 1992; Warr-Leeper et al., 1994). In establishing this relationship, researchers have taken two approaches. The existence of language disorders in children referred for services due to serious behavior or psychiatric disorders has been investigated. Conversely, the existence of behavior disorders in children identified as having language disorders has also been examined. Results of the two approaches have provided compelling confirmation of the frequent coexistence of the two disabilities and are presented in this section.

Language Difficulties In Children With Behavior Disorders

Studies confirming the occurrence of language disorders in children with serious behavior disorders have revealed that between 50% and 80% of children with behavioral disturbances exhibit significant language deficits (Camarata et al., 1988; Cohen et al., 1993; Gualtieri et al., 1983; Ruhl et al., 1992; Warr-Leeper et al., 1994). Initially, this body of research examined children receiving services from psychiatric facilities to determine the prevalence of language problems. Gualtieri et al. conducted a study in 1983 to determine the frequency and severity of developmental language disorders in a group of children from low socioeconomic environments who were receiving inpatient services for severe behavior problems. The study examined 26 children out of 40 consecutive admissions to the Child Psychiatry Service at North Carolina Memorial Hospital for 1 year. The children were primarily male (19) and Caucasian (4 were African American)

and ranged in age from 4 years 11 months to 13 years 2 months. The children received comprehensive diagnostic evaluations including full medical and psychiatric evaluations, intelligence testing using the Weschler Intelligence Scale for Children-Revised (WISC-R) or the Stanford-Binet Intelligence Scale, and assessment of their speech and language skills using a battery of subtests drawn from 14 standardized instruments. Diagnostic and Statistical Manual of Mental Disorders (DSM-III; 1980) psychiatric diagnoses of the children were attention deficit disorder with hyperactivity (8), conduct disorder (8), attention deficit disorder with hyperactivity and conduct disorder (5), schizoid disorder (2), adjustment reaction (2), and childhood schizophrenia (1). Intelligence quotient (IQ) scores were in the average range for 7 children, in the borderline range for 15 children, and in the mildly mentally retarded range for 4 children. The results of language assessment revealed that 2 children exhibited no language deficits, 4 had mild language disorders, 10 had moderate disorders, and 10 had severe language disorders. Eighteen of the 26 children had language scores that were lower than would be expected for their full scale IQ scores. Language deficits were most evident in the areas of auditory analysis, memory, and integration; and they occurred across all psychiatric diagnostic categories. The authors concluded that moderate to severe language disabilities will interfere with a child's therapy as well as other interactions, and they stressed the importance of identifying and correcting these disorders (Gualtieri et al., 1983).

Continuing this line of research, Baltaxe and Simmons (1988) reported the results of a study examining the types of communication disorders and psychiatric disorders seen in children referred for primary psychiatric evaluation to the UCLA Neuropsychiatric

Institute. Of the 125 children included in the study, 58% were Caucasian, 22% were African American, 14% were Hispanic, and 6% were Asiatic, and they ranged in age from 15 months to 72 months. Ninety-one were male and 34 were female. When broken down into five categories of mental disorder, 27% of the children fell into the intellectual (mental retardation) category, 25% were placed in the developmental disorder (autism, childhood-onset pervasive developmental disorder) category, 20% fell into the behavioral (attention deficit disorder, conduct disorder, oppositional disorder) category, 6% were placed in the emotional disorder (anxiety disorder, post-traumatic stress syndrome) category, 8% fell into the specific developmental disorders (developmental language disorders) group, and 9% were categorized as having parent-child relationship problems without diagnostic disorder. Comprehensive speech and language evaluations of the children were conducted using a combination of 14 standardized tests and subtests. Results revealed that 81 of the 125 children (64.8%) demonstrated both receptive and expressive language disorders, 18 children (14.4%) exhibited expressive language difficulties only, 12 children (9.6%) had some areas of language functioning within the normal range but demonstrated mixed receptive and expressive problems, 11 children (8.8%) had problems related to voice, prosody, or fluency without difficulty in other areas, and 3 children (2.4%) had receptive difficulties only.

In additional studies conducted at the UCLA Neuropsychiatric Institute, Baltaxe and Simmons (1990) examined 362 consecutive admissions to inpatient child and adolescent services. The authors found that 70% of the patients aged 24 months to 22 years were determined to have communication disorders. In a second study in the same year (Baltaxe & Simmons), the authors examined 480 children and adolescents receiving

inpatient services for both psychiatric and communication disorders. The researchers confirmed that children displaying psychiatric and language disorders frequently exhibit problems in all areas of communication. Significant impairment was seen in comprehension (62% of the patients had impaired ability to understand vocabulary, 57% had impaired ability to understand syntax, 55% had impaired ability to understand abstract language) and expression (55% of the subjects had impaired vocabulary, 63% had impaired syntax, 70% had impaired ability to express abstract language, 51% had impaired articulation). Impairments in auditory processing were documented for 66% of the participants. Additionally, 72% of the participants demonstrated pragmatic deficits. In sum, 75% of the children and adolescents demonstrated receptive and expressive language deficits; 4% had receptive disorders only; 13% had expressive problems only; and 10% had problems in fluency, voice, prosody, or pragmatics alone.

In examining the prevalence rate of language disorders in children from diverse ethnic groups and socioeconomic classes, Love and Thompson (1988) investigated the language skills of children receiving outpatient services from four Toronto, Canada, psychiatric clinics. The referral patterns of these clinics provided the opportunity to assess a wide range of preschool psychiatric outpatient clients while screening out children with language disorder as their primary problem. The study included 200 children ranging in age from 2 years 9 months to 7 years 8 months representing 33 different ethnic groups and all socioeconomic classes. The children's psychiatric and intellectual abilities were evaluated using the criteria specified in the DSM-III (1980) and the Stanford-Binet. The authors excluded children from the study whose psychiatric diagnoses confounded with language disorders. As a result children with mental

retardation and/or pervasive developmental disorders were disqualified from the study as well as children with incomplete histories and assessments. The final study sample consisted of 116 children. The speech and language skills of these children were evaluated using the Reynell Developmental Language Scales. The researchers established that 65% of the 116 participants displayed a speech or language disorder. In addition, they found that nearly 75% of the children with a diagnosis of language disorder also had a diagnosis of attention deficit disorder.

Conducting a study to determine the prevalence of unsuspected language disorders, Cohen, Davin, and Meloche-Kelly (1989) examined the language and behavioral characteristics of 37 children consecutively referred for outpatient psychiatric services to the George Hull Centre for Children and Families, a mental health agency in Ontario, Canada. The children ranged in age from 5 years to 12 years; 29 were boys and 8 were girls. A short form of the WISC-R was used to measure intelligence, and parents completed the Achenbach Child Behavior Checklist to provide behavioral information. Language skills were evaluated using a combination of nine standardized tests and subtests. Children with autism, deafness, or nonverbal IQ scores below 80 were excluded from the study. Of the 37 participating children, 9 were referred for both psychiatric and language problems while 28 were referred solely for psychiatric disorder. Of these 28 children, 28% demonstrated an unsuspected moderate or severe language disorder. These children's language disorders could not have been detected based on verbal and nonverbal IQ test scores. The authors stressed that "language disorders may be overlooked in some children because of their highly disruptive and therefore more salient behaviors" (Cohen et al., p. 109).

Continuing to investigate the incidence of unsuspected language impairments in children receiving outpatient psychiatric services, Cohen et al. (1993) conducted a study using a sample of 399 children ages 4 to 12 years consecutively referred to three mental health centers in the Toronto, Canada. The study included English-speaking children with nonverbal IQ scores of greater than or equal to 80 as measured by a short form of the WISC-R or the Weschler Preschool and Primary Scale of Intelligence. Parents completed the Achenbach Child Behavior Checklist to provide behavioral information. Language skills were evaluated using a combination of 14 standardized tests and subtests. Overall, 189 children (47.4%) had normally developing language, and 210 children (52.6%) had language impairments either previously unidentified or unsuspected. In total 34.4% had language impairments not previously suspected. The language problems most frequently observed were in the areas of receptive and expressive syntax, receptive phonology, and auditory memory. The authors also found that the children with unsuspected language impairments had the most serious behavioral problems.

More recently, Warr-Leeper et al. (1994) conducted a study to determine the prevalence of language impairments in antisocial boys in residential treatment placements and to explore the nature of the language impairments in this group. The participants in the study consisted of 20 males, ranging in age from 10 years to 13 years 6 months, attending the Child Parent Resource Institute in Ontario, Canada, due to persistent antisocial behavior. The primary diagnoses of the males included oppositional/defiant disorder (45%) and conduct disorder or adjustment disorder with conduct disturbance (50%). The mean full scale IQ for participants was 97.6 as measured by the WISC-R. The Test of Adolescent Language and the Test of Language Competence were used to

evaluate language skills. Of the 20 participants, 16 (80%) evidenced significant language disorders. The language disorders were characterized by substantial problems in understanding abstract language concepts, language without contextual support, and language requiring rapid processing. According to the authors these problems may significantly limit a child's ability to obtain meaning from what is said to them.

Camarata et al. (1988) extended this research by investigating the prevalence of language disorders in children served by a school system since these children often exhibit less severe emotional/behavioral disorders than those receiving services in psychiatric facilities. The authors found a prevalence rate of language disorders among children with mild to moderate behavior disorders comparable to the rate found among children receiving psychiatric services. They investigated 38 public school students (30 males, 8 females) identified as mildly to moderately behaviorally disordered ranging in age from 8 years 9 months to 12 years 11 months. The IQ scores of the students ranged from 67 to 126 as measured by the Kaufman Assessment Battery for Children, the Stanford-Binet, the Weschler Preschool and Primary Scale of Intelligence, or the WISC-R. Language evaluations revealed that 97% of the students fell a minimum of 1 standard deviation below the mean on one or more subtests of the Test of Language Development-Intermediate, while 71% of the students performed at a level 2 standard deviations below the mean. The students most frequently displayed deficits in the areas of morphology and syntax production.

Ruhl et al. (1992) continued this research with the aim of more thoroughly examining the language characteristics of students with mild and moderate behavior disorders. The researchers studied a group of 30 children and adolescents served in

Pennsylvania public school resource classrooms. This group included 8 females and 22 males ranging in age from 9 years 4 months to 16 years 2 months. The intellectual ability of each subject as measured by the WISC-R or Stanford-Binet was reported by school personnel as being within normal range. None of the students were receiving speech and language services or had a history of receiving services for speech or language disorders. The students were evaluated using four different standardized language evaluation instruments: the Test of Language Development–Intermediate, the Test for Auditory Comprehension of Language–Revised, the Peabody Picture Vocabulary Test–Revised, and the Expressive One Word Vocabulary Test. Overall, results revealed that the students scored a minimum of 1 standard deviation below the mean on all evaluation measures except one subtest of the Test for Auditory Comprehension of Language–Revised. The authors suggested that these students suffer from more subtle kinds of language deficits than do children who exhibit more severe psychiatric illnesses such as those described by Baltaxe and Simmons (1988). The students displayed significant deficits in syntax and semantics. Syntactic skills in the areas of understanding and use of complex sentence structures were specifically delayed. Students also demonstrated difficulty in understanding or speaking lengthy sentences. The researchers concluded that unless detailed testing is employed, many problems are not detected in students with mild and moderate behavior disorders.

These studies confirm that a significant number of children with behavioral and emotional disorders demonstrate language delays regardless of whether they are being served by psychiatric facilities or schools. Researchers have detected receptive and expressive language difficulties in the areas of semantics, syntax, abstract language,

phonology, and auditory memory and processing. Often these language delays are unsuspected and would not be revealed by verbal and nonverbal intelligence testing.

An overview of studies demonstrating the existence of language delays in children diagnosed with behavior disorders is presented in Table 2-1.

Behavior Problems In Children With Language Disorders

Using an alternate approach, Cantwell, Baker, and Mattison were some of the first researchers to investigate the coexistence of language and behavior disorders by examining the prevalence of behavior problems among children previously diagnosed with language disorders. In a series of studies, the researchers found that approximately one-half of children evaluated for communication disorders also exhibited at least one psychiatric disorder. In 1979, the investigators evaluated 100 children with speech and language delays consecutively presenting at a speech and language clinic in Los Angeles, California. The children ranged in age from 2 years to 10 years and came from a variety of social backgrounds. Speech and language evaluations were conducted using the Goldman-Fristoe Test of Articulation, the Peabody Picture Vocabulary Test, the Carrow Test of Auditory Comprehension of Language, the Illinois Test of Psycholinguistic Abilities, and analysis of free speech. To evaluate behavior the parents were interviewed and completed two questionnaires: a modified Conners Parent Symptoms Questionnaire and the Rutter Parent Questionnaire Scale. Additionally, teachers completed a modified Conners Teacher Questionnaire and the Rutter B-2 Teacher Questionnaire. Fifty-four of the 100 children exhibited speech and language delays, and 8 displayed only language delays. Of these children, 53 were identified with at least one psychiatric diagnosis, and 11 children were identified with two or more psychiatric diagnoses. The most common

Table 2-1: Studies Demonstrating the Existence of Language Delays Among Children With Behavior Disorders

| Investigation | Purpose | Subjects | Findings |
|------------------------------|--|-----------------------------------|--|
| Gualtieri et al. (1983) | Determine frequency and severity of language disorders in children with psychiatric disorder | 26 students; 4 to 13 years | 50% demonstrated moderate to severe deficits in receptive and expressive language |
| Baltaxe & Simmons (1988) | Determine types of communication disorders in children with psychiatric disorder | 125 children; 15 to 72 mos. | 64.8% had receptive and expressive language disorders; 14.4% had expressive language disorders |
| Baltaxe & Simmons (1990) | Determine prevalence of communication disorders in children with psychiatric disorder | 362 children; 24 mos to 22 yrs | 70% demonstrated communication disorders |
| Baltaxe & Simmons (1990) | Determine prevalence of communication disorders in children with psychiatric disorder | 480 children & adolescents | 70% demonstrated comprehension, expressive, and auditory processing deficits; 72% demonstrated pragmatic deficits |
| Love & Thompson (1988) | Determine prevalence of communication disorders in children with psychiatric disorder | 116 children; 2 to 7 years | 65% demonstrated speech and language disorders |
| Cohen et al. (1993) | Determine prevalence of unsuspected language disorders in a child psychiatric population | 37 children; 5 to 12 years | 24% demonstrated language disorders; 28% demonstrated unsuspected language impairments |
| Warr-Leeper et al. (1994) | Determine prevalence of language impairment in antisocial boys in residential facility | 20 males; 10 to 13.5 yrs | 80% demonstrated language disorders including difficulties understanding language that is abstract, without conceptual support, or requires rapid processing |
| Camarata et al. (1988) | Determine prevalence of language delays in public school children with behavior disorders | 38 students; 8 to 12 years | 71% scored 2 SD below the mean on language evaluation with deficits in morphology and syntax |

psychiatric diagnoses were attention deficit disorder and oppositional disorder. The authors concluded that children with speech and language disorders frequently have associated behavioral problems.

In a later study, Baker et al. (1980) examined children with various types of speech and language problems to determine the different rates and types of psychiatric disorders presented. Specifically, they compared children with pure speech disorders (i.e. articulation, voice, stuttering disorders) to children with disorders of both speech and language to determine the existence of differences in frequency and types of behavior problems between the two groups. The investigation included 99 children ranging in age from 3 years 6 months to 11 years 6 months who were receiving services from a Los Angeles, California, speech and hearing clinic. The children were divided into two groups: a pure speech disordered group made up of 46 children and a speech and language disordered group composed of 53 children. The sex and age distributions and the performance IQs for the two groups were not significantly different. Speech and language evaluations were conducted using the Goldman-Fristoe Test of Articulation, the Peabody Picture Vocabulary Test, the Carrow Test of Auditory Comprehension of Language, the Illinois Test of Psycholinguistic Abilities, and analysis of free speech. Prevalence and severity of behavioral problems were assessed using the Conners Parent and Teacher Questionnaires and the Rutter Parent and Teacher Questionnaires. Both teachers and parents rated the children with speech and language problems as having more behavioral difficulties than children with speech disorders alone. The researchers found that children with speech and language disorders demonstrated more hyperactive behaviors and developmental phenomena such as clinging to parents and crying easily. In

addition, although conduct disorders, relationship behaviors, and emotional symptoms did not consistently distinguish the two groups, the disorders tended to be reported as more severe in the speech and language disordered children. The authors determined that a relationship may exist between psychiatric disturbance and type of speech and language disorder exhibited.

Continuing their research in this area, Baker and Cantwell (1982) examined the prevalence and types of psychiatric disorders in 291 children presenting to a speech and language clinic in Los Angeles to determine whether children with certain types of speech and language disorders are more prone to psychiatric disturbances and to psychiatric disturbances of specific types. The participating children, who ranged in age from 1 year 11 months to 15 years 11 months, underwent comprehensive speech, language, and psychiatric evaluations. Evaluation instruments included the Goldman-Fristoe Test of Articulation, the Peabody Picture Vocabulary Test, the Carrow Test of Auditory Comprehension of Language, the Illinois Test of Psycholinguistic Abilities, the Gray Oral Reading Tests, the Receptive Expressive Emerging Language Scale, parent interviews, parent and teacher behavior rating scales, and child interviews. The researchers divided the children into three groups: those with speech disorders only, those with speech and language disorders, and those with language disorders only. Fifty percent of the children were found to have psychiatric illness according to the criteria of DSM-III (1980). However, the rate of disorder varied between the three groups studied. The researchers found that 29% of the children with pure speech disorders had a psychiatric illness, 45% of the speech and language impaired children had a psychiatric disorder, and 95% of the pure language disordered children were psychiatrically ill. The most

frequently occurring psychiatric disorders were attention deficit disorder, avoidant disorder, oppositional disorder, separation anxiety disorder, adjustment disorder, conduct disorder, and affective disorder. The study confirmed that children receiving services from the speech clinic had an unusually high rate of psychiatric illness with children who displayed pure speech disorders with normal language development being the least likely to have psychiatric disorder.

Further analyzing the data gathered over a three-year period, Baker and Cantwell (1987) compiled evaluation information on 600 children who had received services at a Los Angeles speech and language clinic. The purpose of the research was to determine the prevalence and type of psychiatric disorders exhibited and to compare the psychiatrically ill children with psychiatrically well children on a variety of developmental, socioeconomic, medical, and psychosocial factors. The children ranged in age from 2 years to 16 years. Of the 600 children seen, 50% had been diagnosed with a DSM-III (1980) psychiatric disorder. These children were referred to as the psychiatrically ill group while the children who received diagnoses of no psychiatric illness were referred to as the well group. In comparing the psychiatrically ill and psychiatrically well groups of children, the most highly significant differences were found in areas of linguistic functioning. The psychiatrically ill children were more likely to have delayed or disordered language development as opposed to pure speech disorders and were significantly more likely to have language comprehension problems or expressive language difficulty. The psychiatrically ill children were also more likely to come from families with psychosocial stressors such as family discord and illness.

Continuing to examine the extensive data collected on these 600 children, Cantwell and Baker (1987) divided the children with communication disorders into three groups: those with pure speech disorder, those with speech and language disorders, and those with pure language disorders. The authors found that 31% of the pure speech disordered group had some type of psychiatric disorder, 58% of the speech and language disordered children displayed a psychiatric disorder, and 73% of the pure language disordered children presented a psychiatric disorder. These results confirm findings of previous studies which demonstrated that the children receiving services from the speech clinic had a high rate of psychiatric illness with children who displayed pure speech disorders being the least likely to have psychiatric disorder.

Expanding the work of Cantwell and Baker by examining subjects randomly selected from the general population rather than from a speech and hearing clinic, Beitchman et al. (1986) assessed a representative sample of 5-year-old children from schools, nursery and childcare centers, and special needs centers in the Ottawa, Canada, region. Their aim was to establish the prevalence of speech and language disorders in these children. Through evaluation with a battery of standardized tests, 142 children were identified as having speech and language impairments. Of these children, 27.5% had speech problems only, 43.7% had language problems only, and 28.9 % had speech and language problems. A control sample of 142 children matched for age and sex and taken from the same classrooms or schools was selected and evaluated. Teachers, parents, and a psychiatrist assessed both groups of children for behavioral or emotional problems using the Conners Teachers Rating Scales, the Achenbach Child Behavior Checklist, and a semi-standardized psychiatric interview. The results indicated that the group of speech

and language disordered children were more likely than the control group to display behavioral disturbance; be diagnosed with a DSM-III disorder, particularly attention deficit disorder and oppositional disorder; and suffer from psychosocial stressors such as a recent move, parental separation, or placement in a foster home. The researchers found that not only were the speech and language impaired children at higher risk of psychiatric disorder, but that girls with speech and language disorders were at consistently greater risk than boys.

In studying the prevalence of behavior disorders in children identified with communication disorders, researchers have examined children receiving services from speech and hearing clinics as well as those receiving services from schools and childcare centers. They have detected a similar prevalence rate of behavior disorders in both settings and have concluded that children with communication difficulties often present behavior problems such as attention deficit disorder and oppositional disorder. Further, the researchers have established that children with language delays are more likely to present behavior difficulties than children with speech disorders alone. An overview of studies demonstrating the existence of behavior disorders in children diagnosed with language delays are listed in Table 2-2.

Despite differences in approaches, subjects, and methodology research has demonstrated that a significant number of children with behavior disorders present language deficits, and a considerable number of children with language disorders display behavioral/emotional problems. Both lines of inquiry have converged into a 50% to 80% co-occurrence rate between the two disorder categories. According to Gallagher (1999), "It is now predictable that children identified with one of these problems has a higher

Table 2-2: Studies Demonstrating the Existence Of Behavior Disorders Among Children With Language Delays

| Investigation | Purpose | Subjects | Results |
|---|---|-----------------------------------|---|
| Cantwell, Baker, Matison (1979) | Determine prevalence of behavior problems among children with language disorders in speech clinic | 100 children; 2 to 10 years | 53% exhibited one psychiatric disorder; 11% exhibited at least two psychiatric disorders; attention deficit and oppositional disorders most common |
| Baker, Cantwell, Matison (1980) | Determine frequency and type of behavior problems in children with speech and speech/language disorders | 99 children; 3.5 to 15.5 years | Speech/language group had more hyperactive behaviors; relationship, conduct, and emotional disorders more severe in speech/language group |
| Baker & Cantwell (1982) | Determine if children with certain types of speech/language disorders are more prone to psychiatric problems and what types | 291 children; 1 to 15 years | 50% had psychiatric illness; psychiatric illness was present in 29% of children with speech, 45% of children with speech/language, & 95% of children with language disorders |
| Baker & Cantwell (1987) | Determine prevalence and type of psychiatric disorders in children with language disorders; compare language of mentally well and ill | 600 children; 2 to 16 years | 50% demonstrated psychiatric disorders; psychiatrically ill more likely to have language delay than speech disorders and more likely to have families with psychosocial stressors |
| Cantwell & Baker (1987) | Determine prevalence and type of psychiatric disorders in children with speech/language, pure language, and pure speech disorders | 600 children; 2 to 16 years | Psychiatric disorders found in 58% of speech/language group, 73% of pure language group, and 31% of pure speech group |
| Beitchman, Nair, Clegg, Ferguson & Patel (1986) | Determine prevalence of speech/language disorders in kindergarten children | 142 children; 5 years | Children with speech/language disorders are more likely to have behavior disorders, DSM III diagnoses, & psychosocial stressors |

than average probability of having the other problem as concomitant if not contributing factors to difficulty in their overall functioning” (pp. 2-3).

Comprehension, Compliance, and Teacher Directions

Children have many of their needs met through the use of language by asserting, requesting, negotiating, clarifying, directing, and objecting. Children with limited language skills, however, may not have the ability to effectively convey their needs or may not understand the communication of others. As a result, they may use nonverbal means to communicate, act out in frustration, or fail to respond to others (Gallagher, 1999). In the classroom, these responses may be seen as negative behavior. For example, a child with language delays may hit another child in protest to a toy being taken, push another child to initiate interaction, tantrum when dislikes cannot be expressed, or fail to comply with the instructions or requests of others. Although failure to comply is frequently seen as rebellion or opposition, it is likely that some noncompliance could be due to lack of understanding of directions and an inability to seek clarification (Sanger et al., 1994).

Several studies examine the issue of children’s compliance in relation to their understanding of instructions. Kaler and Kopp (1990) studied the link between language comprehension and compliance in 30 toddlers ranging in age from 12 months to 18 months. In play situations, the toddlers were given simple instructions using words preselected by the researchers and mothers as age-relevant and understood by the individual children. The researchers examined patterns of comprehension and compliance to adult requests. They found that 73% to 77% of comprehended requests were followed while only 14% to 22% of requests containing words previously determined to be

noncomprehended were carried out. Overall, the data from the study suggest that in general children comply when they understand and fail to comply when they do not understand. The authors propose, “Unwillingness often ascribed to young children in part may be a function of their inability to decipher caregiver requests” (Kaler and Kopp, p. 2002).

In additional research looking at child compliance to instruction, Atwater and Morris (1988) observed preschool and early elementary teachers and children across a variety of settings with the aim of providing detailed naturalistic data on teachers’ instructions, children’s compliance, and the context of instructional events. The researchers collected data on the instructional behavior of 45 teachers from seven preschool and six elementary classrooms across three consecutive school semesters. Specifically, the form and frequency of teacher instructions, the rate of instruction delivery, and preschool children’s compliance to instructions were examined. Instructions were categorized as direct imperatives (e.g. “Circle the blue triangle.”), “let’s” imperatives (e.g. “Let’s put our coats in our lockers.”), questions (e.g. “Would you sit down, please?”), and declaratives, (e.g. “It’s time to put our work away.”) The researchers found that participating children received an average of 1.04 instructions per 4 minutes. Of those instructions 67% were direct imperatives, and average compliance was 63%. A comparison of instructions across all syntax categories was not possible due to the low frequency of some categories. However, the authors concluded that explicitly stated instructions, such as direct imperatives, could be critical for increasing compliance in children with language delays and that the use of ambiguous instructions might engender negative child behavior.

Understanding that children with behavior/compliance difficulties may have problems comprehending the directives and requests spoken to them is critical for teachers, the majority of whom rely on verbal language to instruct children (Berlin, Blank, & Rose, 1980; Rosen, Taylor, O'Leary & Sanderson, 1990). Research conducted by Rosen et al. revealed that elementary teachers predominantly use verbal responses to maintain the academic and social behavior of students and that teachers perceive verbal responses to be the most effective interventions. Teachers spend a great deal of time presenting information, managing class activities, and giving directions while students are expected to take in and make sense of the oral information that is constantly being given out (Chilcoat & Stahl, 1986). While teachers often assume their ideas are being understood and that they are stimulating development, there has been some concern that teacher verbal interactions are not explicit enough to be effective for students with emotional/behavioral disorders (Gunter & Denny, 1998). In fact, teachers frequently use complex speech and often do not recognize the sophistication of their language (Berlin et al.).

Lazar, Warr-Leeper, & Nicholson (1989) examined the frequency of occurrence of multiple meaning expressions in the speech of two different teachers at each grade level from kindergarten to eighth grade. Results indicated that teachers use expressions such as indirect requests, idioms, similes, metaphors, and irony in approximately 36% of all utterances. While teachers frequently use multiple meaning phrases, comprehension of these phrases is a later developing skill in normal language development and has frequently been identified as difficult for students with behavior disorders (Warr-Leeper et al., 1994). Thus, teachers' language includes structures that require proficiency in the

skills that many students with language and behavior disorders appear to be lacking. Berlin et al. (1980) suggest that the use of complex verbal formulations and multiple meaning expressions are a source of serious concern for children with disabilities.

It is disturbing, then, to discover that teachers often do not change their instructions to meet the needs of students with exceptionalities. Gunter and Denny (1998) reported that teachers infrequently adjust their vocabulary for the academic level of students and seldom define difficult terminology. A study by Meadows, Melloy, and Yell (1996) investigated this conclusion by examining teacher instructions to children with disabilities. The teachers of 13 mainstreamed students with behavior disorders in grades 6 through 8 were compared with the teachers of 6 similar students who were not mainstreamed. The researchers found that teachers make minimal modifications to their instructional strategies for children with serious disorders.

Instruction that is not modified to meet the needs of students with disabilities is frequently unsuccessful, and according to Harrison, Gunter, and Reed (1996), this ineffective instruction may exacerbate the emotional and behavioral problems of students. They believe that students with behavioral disorders and language delays may display inappropriate behavior in response to misunderstood instructions. For example, a student who does not comprehend the instructions that he hears may choose to be disruptive and subsequently escape further instruction rather than risk the embarrassment of responding incorrectly. Thus, language is a factor that may contribute to negative classroom interactions between students with emotional disorders and their teachers.

It is necessary that teachers recognize their use of abstract or complex speech and be able to modify their instructions and requests so that they are clear and

understandable. Therefore, it is imperative that research be conducted that examines types of teacher instructions and how these instructions may contribute to the performance of students with language and behavior difficulties. Indeed, few intervention studies are available which provide this information or effective strategies for teachers to use with their students with language and behavior difficulties. Additional research that provides teachers with information to assist them in using instructional language that is appropriate to the language level of their students is needed.

Head Start: Incidence of Behavior/Language Problems and Teacher Training

Living in poverty is associated with adverse mental health outcomes for all children and adults, and it is the single greatest predictor of academic and social failure in America's schools (U.S. Department of Education, 2000). Children living in poverty are more likely to experience prenatal exposure to AIDS and drugs, low birth weight, poor nutrition, lead exposure, personal injuries and accidents, and abuse or neglect. In addition, parents of children in poverty often have lower levels of education and higher levels of stress brought on by the circumstances in which they live frequently leading to more harsh and inconsistent parenting styles as well as fewer models of positive social interaction. Further, children living in poverty typically begin school with less exposure to print, less vocabulary, and less practice at following complex directions (Hart & Risley, 1995). In an effort to offset the difficulties children from economically and socially disadvantaged backgrounds encounter when they enter school, a variety of federal, state, and local programs have been designed and implemented.

One such program, which has a 30-year history of successful intervention with young children living in poverty, is Head Start. Head Start is a federal intervention

program for preschool children designed to foster the healthy development of young children from low-income families. Head Start programs are comprehensive child development programs that focus on increasing school readiness by providing opportunities for social, emotional, and intellectual growth. The programs also connect children to health care sources and provide support services to their families.

In 2001, Head Start served over 840,000 three- and four-year-old children from low-income families with 77% of Head Start families earning an annual income of less than \$15,000 (Head Start Bureau, 2002). Because they live in poverty and experience a number of associated risk factors, a large number of children enrolled in Head Start programs are at risk for mental health problems. This includes the likelihood that children in Head Start programs may exhibit problem behaviors and display language deficits (Kaiser et al., 2000).

Incidence of Behavior/Language Problems in Head Start

In looking at the prevalence of problem behaviors in the Head Start population, Kupersmidt, Bryant, and Willoughby (2000) compared the incidence of aggressive behavior among 4-year-olds enrolled in Head Start programs to that of 4-year-olds in community childcare programs. A total of 25 Head Start teachers from five centers participated in the study by rating the behavior of the children in their classrooms. A total of 440 Head Start children comprised the sample. Thirty-eight teachers in 49 licensed daycare and preschool centers in the same counties served by Head Start were randomly sampled as well. The teachers rated the behavior of approximately 10 children per classroom resulting in a community sample of 391 children. The findings of the study demonstrated that the overall levels of aggression in preschool children were higher in

the Head Start classrooms than in community childcare classrooms. The percentage of highly aggressive children did not differ significantly between the samples at this age. Both Head Start and community preschool teachers reported that about 10% of children in their classrooms displayed antisocial aggressive behavior at least daily. The authors stated that the high prevalence rates of aggression demonstrate the need for effective early intervention that should include helping teachers to develop and implement effective strategies (Kupersmidt et al.).

In a similar study, Harden et al. (2000) examined the prevalence of externalizing behavior problems in children enrolled in the Head Start program in the greater Washington, DC, metropolitan area. A total of 155 children participated in the research. Ninety-nine percent of the children were African American, and 100% lived in homes below the poverty line. Behavioral assessment was completed using a number of different measures and assessment protocols. Results indicated that almost one-fourth of the participating children (23.7%) were identified by their parents as having externalizing behavioral problems in the borderline to clinical range with twice as many boys as girls having behavioral problems. Additionally, language ability as evaluated by the Peabody Picture Vocabulary Test was universally low for this sample with a mean score of 62.7.

An additional study examining the prevalence of behavior problems in Head Start classrooms also evaluated the incidence of language delay (Kaiser et al., 2000). The researchers used the Achenbach Child Behavior Checklist for Ages 2 to 3 and the Social Skills Rating System to examine emergent behavior problems in a sample of 3-year-old children enrolled in Head Start. A total of 226 parents or primary caregivers completed the rating scales. Children's concurrent levels of language development were also

evaluated using the Preschool Language Scale-3 and the Peabody Picture Vocabulary Test-III. Results of the study revealed that 1 in 5 boys showed elevated levels of behavioral problems across all measures. One in 4 boys and girls scored in the clinical range for internalizing behavior, and 1 in 5 boys scored in the clinical range for externalizing behavior. This rate is about 4 times the rate expected in a representative sample of children nationwide. In addition, nearly one-half of the boys (48.3%) and girls (45.1%) were rated as having fewer than average social skills. Language evaluation revealed low language skills with more than one-third of the boys (35.2%) and one-fourth of the girls (26.8%) scoring below 80 (i.e. 1.3 standard deviations below the mean) on the Preschool Language Scale-3. Nearly one-half of the boys (46.8%) and girls (42%) scored below 80 (i.e. 1.3 standard deviations below the mean) on the Peabody Picture Vocabulary Test-III. Overall, children with behavior problems were more likely to have decreased language skills than children without behavior difficulties. The results of this study reinforce the assertion that children enrolled in Head Start programs are at increased risk for language and behavior problems and decreased social skill development.

Although the etiology of co-occurring language and behavioral problems is unclear, there is evidence that children in the Head Start population are at greater risk for both language deficits and behavior problems. It is likely that difficulties in either understanding language or producing appropriate verbal responses may lead to aggressive behavior, noncompliance, or withdrawal from peers (Fujiki, Brinton, Morgan, & Hart, 1999). Given the profile of behavioral problems and language skills in the population, Kaiser et al. (2000) suggest that it is likely that multiple approaches to intervention will

be needed. Training teachers to more effectively communicate with these children is one such intervention.

Training of Head Start Teachers

High quality early childhood education experiences often depend on teacher behavior and attitude. The teacher is the main component of a successful classroom, with effective teachers orienting themselves and their approaches to the needs, developmental levels, feelings, interests, and behaviors of their students.

The National Association for the Education of Young Children (NAEYC) asserts that specialized knowledge and skills are necessary to strengthen learning and development in preschool children. In its 1994 position statement, NAEYC recommended that teachers of 4- and 5-year-old children have college level training (NAEYC, 1994). Many teachers of young children, however, have little formal training in early childhood development and education particularly in the area of exceptional student education (Peters & Deiner, 1987).

From its earliest days Head Start has provided training to a staff who for the most part lack formal studies in child development and early childhood education (Benson & Peters, 1988). Because Head Start mandated the involvement of members of the community being served, Head Start parents and other community members were hired to work in the classrooms. Child Development Associate (CDA) certification grew out of the desire of Head Start to hire parents and community members and to assist these individuals to acquire the competencies and credentials needed to work with young children. According to Resnick and Zell (1999) approximately 70% of Head Start lead

teachers hold this level of certification, and presently 29% of Head Start program staff members are parents of current or former Head Start children (Head Start Bureau, 2002).

Given the level of certification of most Head Start teachers, staff development is of particular importance to these teachers and their students and has been a focus of the National Head Start Association. Research has demonstrated a strong link between staff development and the provision of quality services to children and their families (Arnett, 1989; Berk, 1985; Bloom & Sheerer, 1992; Epstein, 1999; Howes, 1983; Vandell & Powers, 1983; Vander Ven, 1994). Much of the focus of research in this area has examined the components of successful professional development. While didactic inservice workshops have frequently been found to be ineffective (Madel, 1982; Trohanis, 1985), participatory teacher training has been supported by numerous research efforts (Caruso, Horm-Wingerd, & Dickinson, 1998; Madel, 1982; Epstein, 1993; Trohanis, 1985; Weikert, 1994).

Participatory training includes strategies such as active participation, modeling, observation, feedback, and practical hands-on training (Epstein 1993; Caruso et al., 1998). Several studies conducted with Head Start staff have shown that participatory training not only positively impacts the trainees' perceptions of their competence but also their job performance (Caruso et al.). Wolfe (1994), in conjunction with Head Start staff and professional development experts, conducted a survey of 128 Head Start staff members to identify the strategies that they believe can facilitate the transfer of knowledge gained in professional development experiences to practice in teaching groups of young children. Given a list of 22 training strategies from which to choose, each participant chose four strategies they would recommend for inclusion in the inservices

they attend. Participants chose small group discussion (54%), demonstration/modeling (47%), handouts (38%), lecture (37%), observing actual practice (34%), games/simulations (28%), role play (24%), and video/movies (20%) as recommended strategies. When asked to rate the 22 training strategies according to how much change they promote on the job, the highest-ranking strategies were observing actual practice, follow-up job assistance, small group discussion, handouts, demonstration/modeling, and follow-up meetings.

An additional study examining training of Head Start teachers was conducted by Fantuzzo, Childs, & Stevenson in 1996. Forty-eight Head Start teachers and 48 parent volunteers from 24 classrooms were randomly assigned to either Collaborative Training or Workshop Training groups. Collaborative Training involved experiential training which included guided practice and feedback from exemplary peers. Workshop Training consisted of a series of workshops conducted by outside trainers for separate groups of teachers and parents. Teachers and parents participating in Collaborative Training reported greater levels of active involvement and satisfaction than did teachers and parents in the Workshop Training group. The study further demonstrates that participatory training may result in more positive classroom practices than typical didactic training.

Further evidence of the value of participatory training was revealed in the work of Caruso et al. (1998). The researchers conducted an evaluative study examining 3 years of training conducted at the New England Head Start Training Center (NEHSTC). The NEHSTC project sought to develop and study a new model of participatory training. The participatory training model investigated in the study included observation, guided

practice, feedback, and didactic training activities that incorporated discussion and simulation. Participants included 136 training and 97 comparison subjects who completed pretest and 1 month post-test assessments and 91 training and 41 comparison subjects who also completed the 6-month follow-up assessment. Data were based on self-reports, supervisor reports, and onsite observation methods. The findings of the investigation clearly suggest that participatory training had a positive impact on trainees' perceptions of their competence and on their actual job performance as evaluated by supervisors.

An additional study conducted to examine training effectiveness investigated whether a 2-hour inservice training session, daily written feedback, and intermittent verbal feedback would increase Head Start teachers' use of incidental teaching procedures. A multiple baseline design across subjects was used to evaluate the effects of the training. Four Head Start teachers were chosen to participate. The investigation showed that Head Start teachers could acquire and use incidental teaching procedures. Two of the teachers, however, may not have used the procedures if they had not received feedback. The findings suggest that developing and implementing staff development activities should include some type of feedback on staff behavior change (Mudd & Wolery, 1987).

Professional development has received much attention as a means for improving education (Sarama, 2002). The literature supports the use of participatory professional development models that include theory, demonstration, practice, feedback, and coaching to assure the ongoing use of instructional procedures (Joyce & Showers, 1980). These strategies have been carefully considered in the development of this investigation.

Rationale for Use of Single Subject Methodology

The use of single subject methodology began in clinical psychology and medical investigations in the 1950's and was rapidly espoused by investigators in the field of applied behavior analysis (McCormick, 1992). Studies using this methodology are increasingly being seen in a wide variety of disciplines including social work, psychiatry, special education, pharmacology, therapeutic recreation, communication disorders, and physical education. The publication of single subject research is the focus of a number of journals and is the methodology of many research proposals funded by the United States Office of Special Education Programs (McCormick, 1990).

Thus, single subject research has gained respectability and offers promising possibilities for research (McCormick, 1990). Several authors have provided rationales for the use of single subject methodology to examine academic interventions. McCormick has presented four reasons to consider the use of single subject designs. First, single subject designs are well suited for clinical and remedial populations. In traditional group studies, judgments about interventions are based on an average result derived from combining the responses of all group members. When results are based on mean responses, significant information such as students' aptitudes, learning characteristics, and needs is often obscured. Single subject research allows for personalization or individualization of data analysis in order to provide important understanding about individual subjects (McCormick). Second, single subject designs avoid many of the practical problems that can be associated with attempts to collect data from large numbers of individuals. In single subject designs, each individual serves as his own control. Third, single subject methodology can be combined with naturalistic or

qualitative research. Recording student information and collecting data can be combined with single case design. Last, single subject designs are reasonably easy to implement making it possible for practitioners to directly engage in relevant research.

According to Schloss, Sedlak, Elliot, and Smothers (2001), one approach to generating pertinent research results is through the application of single subject methodology to continuing problems in the special education classroom. The application of single subject methodology to special education is encouraged by six major characteristics:

- a) It relies on the practitioners' appraisal of the learning characteristics of the child with disabilities.
- b) It assists the matching of innovative education practices with the identified learning characteristics of the child with disabilities.
- c) It supports systematic approaches.
- d) It is suitably adaptable to permit the modification of educational strategies as indicated by the student's performance.
- e) It relies on the progress of one individual under different conditions, not on the comparison of several individuals.
- f) It allows the practitioner to reliably and validly evaluate the effectiveness of a given educational practice.

The authors concluded that single subject methodology can establish valid causal statements regarding the connection between educational treatment and behavior change.

Single subject research methodology is applicable to academic skills and is appropriate for special populations. The aim of single subject research is to establish the

effects of an intervention on a single individual. This rigorous design is particularly suited for the diagnostic-prescriptive orientation of special education and is a viable tool for research in the school environment (Carlson, 1985).

Because the aim of this investigation was to determine the effectiveness of a specific intervention on the behavior of a small number of children rather than on a group as a whole, single subject methodology was chosen as the most appropriate method of research. Further, the study was designed so that each individual served as his own control and so that implementation and future replication would be possible for practitioners.

Summary

Since the mid 1980's, researchers have examined the overlapping presence of language and behavior disorders in children, and this coexistence has been well established in the literature. Research has demonstrated that a significant number of children with emotional/behavioral disorders exhibit language delays, and a considerable number of children with language delays demonstrate behavioral difficulties. Both lines of inquiry have established a co-occurrence rate of 50% to 80% between the two disorder categories. Although the interaction of the disorders is unclear, it is very likely that children who are identified with one of these disorders will demonstrate the other disorder as an associated, if not causal, factor (Gallagher, 1999).

Given the probability that children with behavior disorders may exhibit language deficits, it is possible that children may demonstrate inappropriate behavior as a result of their inability to understand verbal interactions. More specifically, a child may display aggression or noncompliance in the classroom because he does not understand the

teacher's verbal messages. For example, a child may not comply with a teacher's direction because it is too complex for him to understand, or a child may become aggressive due to frustration resulting from unsuccessful attempts to follow an instruction or answer a question he does not comprehend. In these cases, modification of the teacher's instructional behavior may prevent or lessen the behavior problem.

Research has demonstrated, however, that teachers frequently do not change their instructional strategies to meet the needs of their students (Harrison et al., 1998; Meadows et al., 1996). To the contrary, teachers often use language that requires competence in skills that many children with language and behavior disorders do not possess (Gunter & Denny, 1998). Further, according to Nelson (1985), teachers' speech is often linguistically complex even in early grades.

This is particularly disturbing given the growing incidence of behavior problems among preschool children. Research conducted in Head Start classrooms has confirmed that children receiving services from Head Start programs are at increased risk for language and behavior problems with as many as 20% of children demonstrating behavior problems and 25% to 50% displaying delayed language skills (Kaiser et al., 2000, Harden et al., 2000, Kupersmidt et al., 2000). The teachers of these children may be unaware of the coexistence of these disorders and may not understand how to modify their instructions to meet the developmental levels or behaviors of their students.

The purposes of this study were to determine if Head Start teachers holding at least Florida CDA certification would increase their use of specific directions following training, the effects of the increased use of specific directives by these teachers on the compliance of preschool children with language and behavior disorders, and whether

teacher use of specific directives would generalize to an untrained setting. The investigator used a single subject multiple baseline design across subjects to conduct this investigation.

By examining the effects of using specific directives to improve compliance in preschool children, this investigation extends research offering intervention strategies that consider the interaction of language disorders and behavior difficulties. In addition, by looking at teacher use of specific directions in an intervention setting, generalization setting, and maintenance phase following teacher training, this investigation adds to the body of research examining effective professional development practices.

CHAPTER 3 METHODS AND PROCEDURES

There is convincing evidence of a correlation between language and communicative competence and emotional/behavioral disorders. Even with such a high probability of coexistence, limited suggestions and implications for practice have been offered in the literature. Moreover, there is a dearth of research demonstrating the effectiveness of intervention strategies that consider the interaction of receptive language disorders and behavior difficulties. The purpose of this research was to determine if teacher use of specific directives increased after training, to examine the effects of the use of specific directives on compliance in preschool children with language and behavior difficulties, and to determine if teacher use of specific directives generalized to an untrained setting. Chapter 3 is organized into three sections: setting, participants, and methodology. The methodology section contains information regarding design, procedures, treatment integrity, measurement and data collection, and interobserver agreement.

Setting

This research study took place in Gainesville, High Springs, and Alachua, cities located in Alachua County in the north central portion of the state of Florida. The prebaseline, baseline, intervention, and follow-up phases of the study took place in four Head Start classrooms located in four public elementary schools. These classes enrolled 20 students, the majority of whom were African American. There was one teacher and one teacher assistant per class. In addition, “foster grandparents”, members of a retiree

volunteer program, were frequently present and assisting with activities. The teacher trainings took place in individual sessions. The sessions were conducted in the facilities where the participating teachers were employed at times deemed convenient by the teachers.

Participants

Three 4-year-old children and one 5-year-old child being served by a Head Start program in Alachua County, Florida, and their teachers participated in the study. Head Start administrative staff selected the participating teachers. Teachers were required to hold at least Florida CDA certification and agree to participate by completing a teacher consent form. Participating children were selected by their teachers as having behavior problems and possible language delays. All of the children were attending Head Start for the first time and had been enrolled for 8 weeks prior to the initiation of the research. Each child participating in the study met the following criteria:

1. The child displayed a receptive language delay as demonstrated by scores at least 1 standard deviation below the mean on two standardized instruments during evaluation by the researcher, a certified speech/language pathologist.
2. The child demonstrated a significant behavior problem as indicated by the teacher's completion of a child behavior rating scale.
3. The child had not previously been diagnosed with any type of cognitive delay.
4. The child did not have a history of absenteeism or frequent moves.
5. The child's parents or guardians signed a parent consent form.
6. The child gave assent.

Each child's language skills were evaluated using the Preschool Language Scale-Third Edition (PLS-3; Zimmerman, Steiner, & Pond, 1992) and the Peabody Picture Vocabulary Test – Revised (PPVT-R; Dunn & Dunn, 1981). The PLS-3 (Zimmerman, et al.) is an individually administered standardized test for use with infants and children from birth to 6 years of age. It assesses young children's receptive and expressive language abilities using two subscales: Auditory Comprehension and Expressive Communication. The assessment yields a raw score, standard score, age score, and percentile rank. In this investigation, receptive and expressive language skills were considered low when children scored below 85 on these subscales. A score of 85 was 1 standard deviation below the mean for the normative sample.

The PPVT-R (Dunn & Dunn, 1981) is an individually administered norm-referenced test of single-word receptive vocabulary. The child's performance on the assessment yields a raw score, standard score, percentile rank, stanine, and age-equivalent score. Children with PPVT-R (Dunn & Dunn) scores below 85 (1 standard deviation below the mean for the normative sample) were considered to have low language skills.

Behavior was rated through teacher completion of the Burks' Behavior Rating Scales, Preschool and Kindergarten Edition (BBRS; Burks, 1980). The BBRS (Burks) is for use with children ages 3 to 6 years. It consists of 110 items, each describing a behavior infrequently observed in typical children. Teachers indicate on a 5-point response scale how often each of the behaviors is seen in the child being evaluated. The scale provides a profile of scores covering 19 problem behaviors. The BBRS (Burks) was completed by teachers prior to the initiation of the study and following the intervention

phase. Information regarding each child's history was obtained through informal teacher interviews. Table 3-1 provides demographic data on each child participant as well as evaluation scores and information.

Table 3-1: Demographic Data on Child Participants

| Participant Number | Age | Race | Gender | PLS: 3 Scores | PPVT-R Scores | Burks Areas of Significance |
|--------------------|------|------|--------|-------------------------------|---------------|--|
| 1 | 4-10 | B | M | AC: 60 EC: 57 Total: 56 | 47 | attention, impulse control anger control, aggressiveness, resistance, social conformity |
| 2 | 4-5 | B | M | AC: 82 EC: 88 Total: 83 | 80 | intellectuality and attention. |
| 3 | 4-6 | B | M | AC: 59 EC: 62 Total: 56 | 56 | dependency, resistance, physical strength, ego strength, coordination, intellectuality, attention, impulse control, reality contact, sense of identity, aggressiveness |
| 4 | 5-0 | B | M | AC: 62 EC: 62 Total: 58 | 63 | suffering, resistance, aggressiveness, attention, impulse control, anger control |

Dyad One

Child One. Child One was a 4-year 10-month-old African American male attending the Head Start program. His Auditory Comprehension score on the PLS-3 (Zimmerman et al., 1992) was 60 (2.7 SD below the mean), while his Expressive Communication score was 57 (2.8 SD below the mean). The participant's Total Language Score on the PLS-3 (Zimmerman et al.) was 56 (2.9 SD below the mean). On the PPVT-R (Dunn & Dunn, 1981), the participant scored 47 (3.5 SD below the mean). Teacher rating of behavior using BBRS (Burks, 1980), revealed scores in the significant range in the areas of attention, impulse control, anger control, aggressiveness, resistance, and social conformity indicating significant behavior problems in these areas. According to teacher report, Participant One was prenatally substance exposed. He lived with his elderly aunt who was experiencing a number of medical problems, and he reportedly had no contact with his birth parents.

Teacher One. Teacher One was a Caucasian female. She held Florida CDA certification and an Associate of Arts degree. She had 23 years of teaching experience, 10 years in the Head Start program. Teacher One reported prior work experience in childcare centers and as a paraprofessional in the public school system.

Dyad Two

Child Two. Child Two was a 4-year 5-month-old African American male attending the Head Start program. His Auditory Comprehension score on the PLS-3 (Zimmerman et al., 1992) was 82 (1.2 SD below the mean), while his Expressive Communication score was 88. The participant's Total Language Score on the PLS-3 (Zimmerman et al.) was 83 (1.1 SD below the mean). On the PPVT-R (Dunn & Dunn, 1981), the participant scored

80 (1.3 SD below the mean). Teacher rating using the BBRS (Burks, 1980) revealed scores in the significant range in the areas of intellectuality and attention indicating significant problem behaviors in these areas. As reported by his teacher, Child Two lived with his mother, stepfather, and three older siblings. Child Two's father was involved with the family. Child Two had asthma, used a nebulizer, and took medication for this condition. The teacher reported that the medication was inconsistently provided during the study.

Teacher Two. Teacher Two was a Caucasian female with 12 years of teaching experience in the Head Start program. She held Florida CDA certification and an Early Intervention certificate. Teacher Two was working to obtain her Associate of Arts degree. Prior to teaching, she worked as a secretary for several different agencies.

Dyad Three

Child Three. Child Three was a 4-year 5-month-old African American male attending the Head Start program. His Auditory Comprehension score on the PLS-3 (Zimmerman et al., 1992) was 59 (2.7 SD below the mean), while his Expressive Communication score was 62 (2.5 SD below the mean). The participant's Total Language Score on the PLS-3 (Zimmerman, et al.) was 56 (2.9 SD below the mean). On the PPVT-R (Dunn & Dunn, 1981), the participant scored 56 (2.9 SD below the mean). Teacher rating of behavior using the BBRS (Burks, 1980) indicated significant problem behaviors in the areas of dependency, physical strength, and aggression. Child Three scored in the very significant range in the areas of ego strength, coordination, intellectuality, attention, impulse control, reality contact, and sense of identity. According to teacher report, Child Three lived with his mother, a teen parent, and his grandfather.

Teacher Three. Teacher Three was an African American female who held Florida CDA certification and was taking coursework to obtain her Associate of Arts degree. She had 25 years of experience working with children. Much of her experience was gained in childcare centers. Teacher Three had taught in the Head Start program for 17 years.

Dyad Four

Child Four. Child Four was a 5 year 0 month old African American male attending the Head Start program. His Auditory Comprehension and Expressive Communication scores on the PLS-3 (Zimmerman et al., 1992) were 62 (2.5 SD below the mean). The participant's Total Language Score on the PLS-3 (Zimmerman et al.) was 58 (2.8 SD below the mean). On the PPVT-R (Dunn & Dunn, 1981), the participant scored 63 (2.5 SD below the mean). Teacher rating of behavior using the BBRS (Burks, 1980) revealed scores in the significant range in the areas of suffering, aggressiveness, and resistance indicating problem behaviors in these areas. The participant scored in the very significant range in the areas of attention, impulse control, and anger control. Child Four was born to a teen mother. He lived with his mother and infant sister.

Teacher Four. Teacher Four was an African American female who held Florida CDA certification and was working to obtain her Associate of Arts degree. She had 25 years of experience working with children. Much of her experience was gained in childcare centers. Teacher Four had 12 years of teaching experience in the Head Start program.

Design

A single subject, multiple baseline design across subjects was used to conduct this research. The research began with data collection on the behavior of two of the dyads.

Data collection with two additional dyads began several weeks after initiation of the research with the first two pairs. A single subject design is appropriate for the research because the population of the participants is heterogeneous, the time-intensity only allowed for the inclusion of a small but sufficient number of participants, and the goal of this research was to determine the effects of individualized training and intervention rather than to demonstrate that an intervention package is best for a group of participants.

In order to determine the effects of the intervention on teacher and child behavior, visual inspection of the data occurred. Data were reflected in simple line graphs which included baseline, intervention, generalization, and maintenance data. Visual analysis of graphically displayed data is a widely accepted method of analyzing single subject research (Herson & Barlow, 1984; Parsonson & Baer, 1986). Changes in magnitude, trend, and variability in the dependent variable are analyzed within and between the conditions across participants. The emphasis is on both interrater agreement and procedural reliability which is paramount for accurately inspecting these changes.

Experimental Procedures

Prebaseline

During the prebaseline phase teachers were asked to identify three activities in their classrooms during which they used a significant number of directives. Three 20-minute observations were videotaped in each classroom during the identified activities. Frequency counts were conducted by the researcher to determine the activities during which more nonspecific teacher directives occurred. The activity with the highest frequency of nonspecific directives was chosen as the setting of the intervention phase while the activity with the second highest frequency of nonspecific directives was chosen

as the generalization setting. Teachers whose use of specific directives exceeded 50% during prebaseline observations were disqualified from the study.

Baseline

The activity identified in prebaseline for each classroom was observed and videotaped daily or as often as possible. Activities were videotaped for up to 20 minutes per session. If an activity lasted less than 12 minutes, videotaping was continued through the following activity until 20 minutes of taping was completed. Baseline data were gathered for at least three sessions and until the data gathered were stable or a trend was established. Data were gathered from the videotapes regarding types of teacher directives used (e.g. nonspecific or specific) and the students' responses. (e.g. compliant, noncompliant, no opportunity). For each set of teacher/child dyads, baseline data collection was initiated within 2 days of each other and continued until the intervention phase was introduced. The teachers were directed to instruct as they normally would, employing whatever techniques they customarily used.

Intervention Phase

Teacher training. Once a stable baseline trend was established, each teacher attended an individual training lasting approximately 2 hours. The sessions were conducted approximately 1 to 2 days before the use of specific directives was implemented to ensure that the information was "fresh" to the teachers and to avoid the implementation of strategies during baseline. When training was completed, implementation of the use of specific directives in the classroom began immediately. Once intervention data for the first teacher was stable or showing an upward trend, training was initiated for the second teacher. Likewise, when intervention data for the

third teacher revealed a stable trend, the training for the fourth teacher began. Training ended when criterion for each component was met.

To ensure consistent training across teachers, training was conducted by the researcher according to guidelines set forth in a training guide developed by the researcher. (The training guide can be found in Appendix C.) Teacher training consisted of three elements:

1. An overview of receptive and expressive language disorders and information on the co-occurrence of these disorders was provided with the discussion focusing on receptive language disorders and child characteristics.
2. The meaning and use of the terms “specific directive” and “nonspecific directive” were explained.
 - a) Examples of specific and nonspecific directives were modeled and explained by the researcher. For example, the researcher provided examples of nonspecific directives such as “clean up” and “get ready for lunch” and explained that these directives do not name the specific action to be carried out by the child. In addition, examples of specific directives such as “put the crayons in the basket” and “wash your hands” were modeled. The researcher explained that these directives clearly name the action to be taken by the child.
 - b) Next, teachers were asked to verbally explain the difference between specific and nonspecific directives. A written check of understanding was conducted wherein teachers identified listed directives as either specific or nonspecific. (See Evaluation 1 in Appendix C.) When the teachers met the criterion of 90% accuracy, training progressed.

- c) Teachers verbally supplied two examples of nonspecific directives and modeled specific directives that could be substituted for the nonspecific directives. A written check was also conducted in which the teacher provided eight additional examples of nonspecific directives and provided eight alternative specific directions. (See Evaluation 2 in Appendix C.) Teachers were required to meet a criterion of 90% accuracy.
 - d) The researcher reviewed the activity chosen in prebaseline to be used in the intervention phase. The teacher and the researcher reviewed the tasks the teacher had planned for the activity and collaborated to develop six specific directives that could be integrated into the tasks. For example, if the activity identified during baseline was an art center, the teacher and researcher reviewed the tasks the teacher had planned for art center and developed six specific directives to be presented to the student during the tasks. In a painting task the six specific directives may have included, “put on your smock,” “put a piece of paper on the easel,” “get a paint brush,” “wash your brush out in the sink,” “hang your smock on the hook,” “wash your hands.” It was necessary for tasks to change daily to control for the child learning when/how to carry out the directives through repetition or contextual cues. Additional tasks and directives were planned by the teacher and researcher as needed.
3. Teachers were instructed to provide specific directives to the participating children during the classroom activity chosen during prebaseline as the intervention setting. In addition, teachers were directed to respond to noncompliance in their typical manner.

Each teacher implemented the use of specific directives in her classroom. After three to five sessions, depending on stability of data collected, if the teacher was not using specific directives at least 70% of the time during the activity chosen for the intervention phase, a coaching session was provided.

Coaching session. During the coaching phase, the researcher reviewed the meaning of the terms “specific directive” and “nonspecific directive”. The researcher then provided written examples of nonspecific directives transcribed from videotapes of the teacher during the intervention activity. The teacher verbally explained why the examples were nonspecific and provided specific directives that could be substituted for the nonspecific directives. The teacher was required to meet a criterion of 90% accuracy. Last, as in the initial training session, the teacher and the researcher planned six specific directives that could be integrated into the teacher’s planned tasks. A coaching session was conducted individually with one teacher who did not meet the 70% criterion described in the intervention phase.

Generalization

Generalization probes were conducted during the class activity determined during prebaseline to be second highest in the use of nonspecific directives. Sessions were videotaped for 12 to 20 minutes. If an activity lasted less than 12 minutes, videotaping was continued through the following activity until 20 minutes of taping was completed. Generalization probes were conducted at least twice during baseline and every third session or as soon thereafter as possible during the intervention phase. Data were collected regarding teacher use of specific and nonspecific directives and child responses.

Maintenance

Follow-up observations were conducted 8 weeks after the termination of the intervention phase to determine if teachers were continuing to use specific directives and to examine student responses. Four observations of classroom activities were videotaped in each Head Start site using the time guidelines previously described. Three of the observations were of the intervention activity while one was of the generalization activity. Data collection procedures mirrored those procedures previously described.

Social Validity

In an effort to establish social validity of the intervention, each teacher completed a questionnaire at the end of maintenance phases. The purpose of the questionnaire was to obtain the teachers' opinions on five questions regarding the use of specific directives and student compliance. The questions pertained to the student behavior and teacher opinions regarding the implementation of strategies. Each question was completed using a 5-point Likert scale. (Appendix D contains the Social Validity Questionnaire used in this investigation.)

Treatment Integrity

Teacher training was conducted using a training guide developed by the researcher to ensure the consistency of training among participating teachers. Data regarding the implementation of the use of specific directives by the teachers were collected during each session.

Measurement and Data Collection

The baseline, intervention, and maintenance phases of the study were videotaped daily or as often as possible. The generalization probes occurred every third session.

Twelve to twenty minutes of each session were recorded. If activities lasted less than 12 minutes videotaping continued until 20 minutes of data were collected. Two graduate assistants were trained in coding definitions prior to data collection to ensure that behavior was accurately coded. Accuracy was evaluated by having the graduate assistants score tapes that had previously been scored by the researcher. The graduate assistants were required to reach a criterion of 85% agreement across three sessions before data collection began.

During the investigation, the researcher observed and videotaped the sessions. Data were collected from the videotapes of the first, third, and fourth dyads by one graduate assistant and from the videotapes of the second dyad by the second graduate assistant. The data collectors recorded the use of specific directives and nonspecific directives presented by the teachers as well as compliance exhibited by the students. Only directives given to the target child and to the whole class, if applicable to the child, were coded. Directives given to other children or to the class and not applicable to the target child were not coded. For example, if the teacher told the class to sit down and the target child was not sitting the direction was coded. However, if the same direction was given to the whole class and the target child was already seated, the direction was not coded. (Appendix B contains the data collection form and coding guidelines used in this investigation.)

Interobserver Agreement

Interobserver agreement was calculated for a minimum of 33% of sessions divided evenly across all experimental phases for each behavior separately. The graduate assistants and the researcher independently viewed randomly selected, taped sessions and

recorded the behaviors. Agreement was defined as two independent observers scoring the same code on each teacher's direction and child response. Disagreements were scored for any deviation between the two observers' codes: if the observers coded different behaviors or if one of the observers recorded a behavior and the other did not. Interobserver agreement was calculated using exact agreement by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100 (Kazdin, 1982).

Pilot Study

Prior to implementing the research, a pilot study was conducted with one teacher/child dyad to develop and solidify the observation system and the teacher training sessions. More specifically, the purpose of the pilot study was to determine the need for modification of the data collection procedures prior to actual data collection and modification of teacher training procedures. Information gained from the pilot study was used to make adjustments in the procedures of the study.

The materials, design, and procedures used in the pilot study were similar to those described earlier in this chapter. There were differences, however, in the eligibility of the child participant. The child was identified by his teacher as having behavior difficulties, however, no formal rating of behavior was conducted. Also, the child's language skills were not evaluated, and follow-up observations were not conducted.

Participants

One dyad from a local childcare center was selected to participate in the pilot research. Members of faculty at the University of Florida were aware of the behavior problems of the participating child and suggested the child and teacher as possible study

participants. The child was a 4-year-old Caucasian male who displayed significant behavior difficulties including noncompliance, aggression, and tantruming. The teacher was a Caucasian female who held Florida CDA certification.

The teacher, parent, and child agreed to participate in the study. The mother requested, however, that videotaping not occur. Therefore, data were collected by the graduate assistant at the childcare center during the target activity. Reliability data were collected by the researcher in the same manner.

Experimental Design

A quasi-experimental design was used for the pilot study to evaluate the data collection procedures and to evaluate teacher training and implementation of the use of specific directives. One dyad was exposed to the following conditions: prebaseline, baseline, intervention, and generalization. The design began with prebaseline determination of the classroom activity in which the highest number of nonspecific directives was used. Baseline observations of the teacher's use of specific directives and child compliance were conducted. The teacher attended a teacher training session and implemented the use of specific directions. Data were collected regarding the teacher's implementation of the use of specific directives and the child's compliance. In addition, observations of the generalization of the use of specific directives to a second class activity also occurred.

Results

Prebaseline frequency counts of the use of directives were conducted in three classroom activities. The activity in which the teacher used the most directives was Small Group. This activity was chosen for the intervention activity. Outside Play was the

activity with the second highest frequency of directive use and was used for the generalization activity.

Baseline data were collected in Small Group with generalization probes occurring in Outside Play. The mean level of the teacher's use of specific directives was 47 %, and the mean level of child compliance was 60.8% during baseline. When baseline data were stable, teacher training was conducted. Training lasted approximately 1 hour 30 minutes and was carried out during naptime. The teacher exceeded the minimum criterion for each component and was instructed to implement the use of specific directions. The mean level of the teacher's use of specific directives during the intervention phase rose to 88.7% and child compliance increased to 74 %. In the generalization activity, the mean level of teacher use of specific directives was 30 % during baseline and rose to 94% after training. Child compliance was 80 % during the baseline phase and 82% during the intervention phase in the generalization activity. (Appendix E contains the graphic displays of data gathered during the pilot study.)

Interobserver Agreement

Interobserver agreement was calculated for 33% of sessions divided evenly across baseline, intervention, and generalization for each behavior separately. The graduate assistant and the researcher simultaneously observed sessions and recorded the behaviors. Agreement was defined as two independent observers scoring the same code on each teacher direction and child response. Disagreements were scored for any deviation between the two observers' codes: if the observers coded different behaviors or if one of the observers recorded a behavior and the other did not. Interobserver agreement was calculated using exact agreement by dividing the number of agreements by the number of

agreements plus disagreements and multiplying by 100 (Kazdin, 1982). Interobserver agreement ranged from 76.9% to 100%, and yielded mean agreement of 84.6%.

Modifications Resulting from Pilot Study

Modifications made as a result of the pilot study were minimal. No changes were made to teacher training and the data collection system was varied only slightly. While the actual method of data collection was not changed, the coding guidelines for determining whether directives were specific or nonspecific were expanded. For example, awkwardly worded directions such as “find your bottom and sit on it” were determined to be nonspecific as were directions stated in the form of a question. Thus, the guidelines were further developed and extended to be more precise and detailed.

CHAPTER 4 RESULTS

The purpose of this investigation was to determine the effectiveness of an intervention designed for preschool teachers to use with their students with language and behavior difficulties. The research questions were: (a) Will preschool teachers who hold at least Florida Child Development Associate (CDA) certification increase their use of specific directives following training? (b) What are the effects of teachers' increased use of specific directives on compliance in preschool children with language and behavior difficulties? (c) If specific directives increase after training, will the use of specific directives generalize to an untrained setting?

To investigate these questions, four teacher/child dyads participated in the research. The participating teachers were selected by Head Start administrative staff and held at least Florida CDA certification. The children were selected by their teachers based on the presence of behavior problems and possible language delays. The children were evaluated using standardized measures to determine the presence of language delay and behavior difficulties. Prebaseline and baseline data were collected regarding teachers' use of specific and nonspecific directives and children's compliance. During the intervention phase, the teachers were trained to use specific directives when instructing their students with language and behavior problems and were asked to implement the use of specific directions. The effects of the intervention were measured by comparing teacher use of specific directives and child compliance prior to training with teacher use of specific

directives and child compliance during the intervention phase. Data were also collected in an untrained setting to determine generalization of the intervention and were collected during follow-up probes to examine maintenance.

A single subject multiple baseline design across subjects was used. The dependent variables across all phases of the study were teacher use of specific directives and child compliance. Due to difficulty in finding subjects, baseline data were not collected concurrently for all dyads. Instead, data collection was initiated with two dyads and began with the remaining two dyads approximately 3 weeks later.

This chapter is organized by investigation phases. Interobserver agreement information has been provided, the results of the procedures and the research questions posed in Chapter 1 have been addressed, and data have been graphically displayed in Figures 4-1 and 4-2.

Interobserver Agreement

Interobserver agreement was calculated for at least 33% of each dyad's sessions divided evenly across baseline, intervention, generalization, and maintenance phases. The researcher independently viewed the video recordings to determine agreement with the primary data collector. For Dyad One interobserver agreement was calculated on 7 out of 18 sessions and ranged from 76.7% to 91.7%. Mean agreement was 83.3%. Interobserver agreement was calculated on 9 out of 26 sessions for Dyad Two and ranged from 79.4% to 90% with mean agreement of 85%. For Dyad Three agreement was calculated on 8 out of 22 sessions and ranged from 77.8% to 100%. Mean agreement was 88.7%. Finally, agreement was calculated on 7 out of 18 sessions for Dyad Four. Interobserver agreement ranged from 77.3 % to 91.7% with mean agreement of 84.7%.

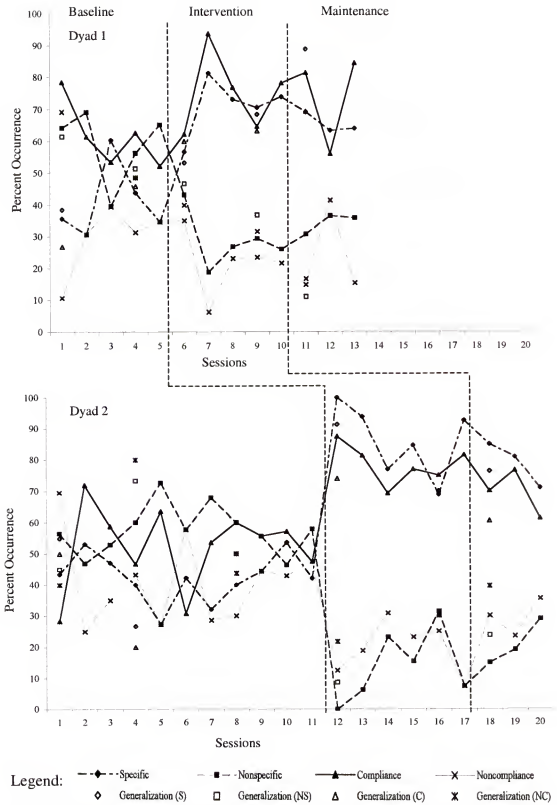


Figure 4-1: Baseline, Intervention, and Maintenance for Dyads 1 and 2

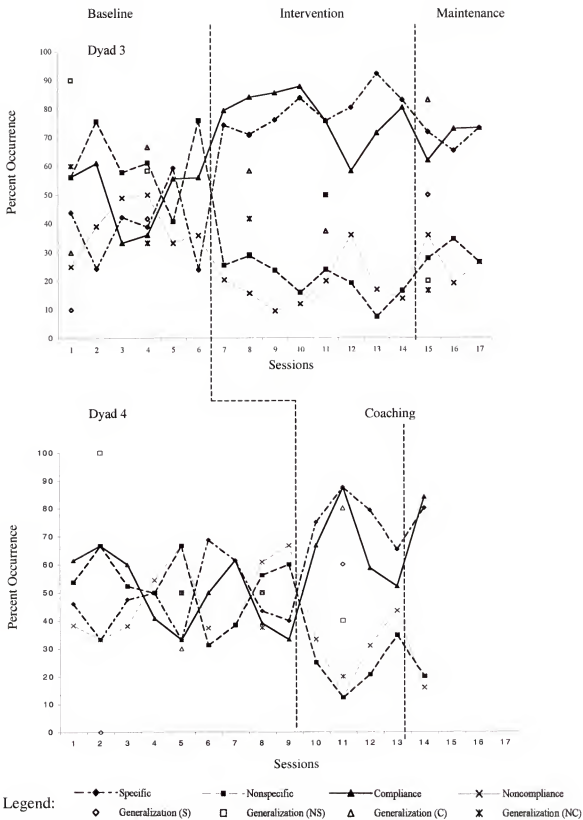


Figure 4-2: Baseline, Intervention, and Maintenance for Dyads 3 and 4

Prebaseline

During the prebaseline phase teachers were asked to identify three activities in their classrooms during which they used a significant number of directives. Three 20-minute observations were videotaped in each classroom during the identified activities. The researcher conducted frequency counts to determine the activities highest in teacher use of nonspecific directives. The activity with the highest frequency of nonspecific directives was chosen as the setting of the intervention phase while the activity with the second highest frequency of nonspecific directives was chosen as the generalization setting.

Dyad One

Prebaseline data were collected during Small Group, Large Group, and Teacher Directed Activity times. Following videotaping and frequency counts, the activity chosen for baseline and intervention data collection was Small Group. Teacher Directed Activity time was chosen as the generalization setting.

Dyad Two

The activities chosen by Teacher Two as highest in the use of directives were Centers, Large Group 1, and Large Group 2. The activities were videotaped and frequency counts conducted. The activity chosen for baseline and intervention data collection was Large Group 1. Large Group 2 was chosen as the generalization setting.

Dyad Three

Prebaseline data were collected during Large Group, Small Group, and Centers for Dyad Three. Following videotaping and frequency counts, the activity chosen for

baseline and intervention data collection was Small Group. Large Group was chosen as the generalization setting.

Dyad Four

Centers, Large Group, and Small Group were the three activities selected by Teacher Four as highest in the use of directives. The activities were videotaped and frequency counts conducted. Large Group was chosen for baseline data collection. Small Group was chosen as the generalization setting.

Baseline

Dyad One

During baseline sessions, Dyad One was videotaped during Small Group. The graduate assistant collected data from the videotapes regarding teacher use of specific directives and child compliance. The teacher's use of specific directives ranged from 30.7% to 60.4% with the mean occurrence of specific directives being 41.1%. Child compliance ranged from 52.2% to 78.5% with a mean level of compliance of 61.6%. Data was collected on a total of five baseline sessions.

Dyad Two

Baseline sessions for Dyad Two were videotaped during Large Group 1. Data regarding teacher use of specific directives and child compliance were collected from the videotapes by the graduate assistant. Use of specific directives by the teacher ranged from 27.3% to 53.6% with the mean occurrence of specific directives being 42.3%. Child compliance ranged from 28.3% to 71.9% with a mean level of compliance of 52.2%. Baseline for Dyad Two was conducted over 11 sessions.

Dyad Three

Dyad Three was videotaped during Small Group baseline sessions. The graduate assistant collected data from the videotapes regarding teacher use of specific directives and child compliance. Use of specific directives by the teacher ranged from 23.8% to 59.3%. The mean occurrence of specific directives was 38.7%. Child compliance ranged from 33.3% to 61.9%. The mean level of compliance was 49.7%. Baseline was conducted over six sessions.

Dyad Four

During baseline sessions Dyad Four was videotaped during Large Group. Data regarding teacher use of specific directives and child compliance were collected from the videotapes by the graduate assistant. Use of specific directives by the teacher ranged from 33.3% to 68.7% resulting in a mean occurrence of specific directives of 47.1%. Child compliance ranged from 33.3% to 66.7% with a mean level of compliance of 49.6%. Baseline for Dyad Four was conducted over nine sessions.

Summary

During baseline, the overall mean use of specific directives by the teachers was 42.3%. The mean compliance of the four children was 53.3%.

Intervention

Teacher Training

When baseline data were stable for each dyad, teachers individually participated in training conducted by the researcher. For each teacher, an overview of language disorders was provided, information on the co-occurrence of language and behavior problems was discussed, and the meaning and use of the terms “specific directive” and “nonspecific

directive” were described and modeled by the researcher. Teachers were required to verbally explain the difference between specific and nonspecific directives and complete a written check of their ability to appropriately label specific and nonspecific directives. They were also required to provide written examples of nonspecific directives along with substitute specific directives. Each teacher planned with the researcher six directives to be used during tasks the teacher had previously planned to implement during five intervention activities.

Dyad One. When baseline data were stable, Teacher One was trained in the use of specific directives. The training was held in the classroom on an early release day and lasted 2 hours 15 minutes. The teacher was able to verbally explain the difference between specific and nonspecific directives and achieved 100% accuracy on a written check of her ability to appropriately label specific and nonspecific directives. Teacher One was also able to provide examples of nonspecific directives along with appropriate alternative specific directives with 100% accuracy.

Dyad Two. When intervention data for Dyad One and baseline data were stable, Teacher Two participated in training. The 2 hour 45 minute training session was conducted in Teacher Two’s classroom after the children were dismissed from school. The teacher was able to verbally explain the difference between specific and nonspecific directives and achieved 100% accuracy on a written check of her ability to appropriately label specific and nonspecific directives. Teacher Two achieved 90% success in providing examples of nonspecific directives along with appropriate alternative specific directives.

Dyad Three. Teacher Three participated in training when data were stable. The training was conducted in Teacher Three's classroom after the children were dismissed from school. The session lasted 2 hours 55 minutes. Teacher Three was able to verbally explain the difference between specific and nonspecific directives and achieved 90% accuracy on a written check of her ability to appropriately label specific and nonspecific directives. Teacher Three also achieved 90% success in providing written examples of nonspecific directives along with appropriate alternative specific directives.

Dyad Four. When intervention and baseline data for Dyad Three were stable, Teacher Four participated in training. The 2 hour 20 minute training session was conducted in Teacher Four's classroom during naptime and continued as the children played outdoors. The teacher was able to verbally explain the difference between specific and nonspecific directives and achieved 90% accuracy on written check of her ability to appropriately label specific and nonspecific directives. Teacher Four achieved 90% success in providing examples of nonspecific directives along with appropriate alternative specific directives.

Summary. All Head Start teachers received information on language disorders and were trained to use specific directives when instructing their students with language and behavior difficulties. The average length of training for the teachers was 2 hours 33 minutes with all teachers scoring at least 90% on written and verbal checks.

Teacher Use of Specific Directives and Child Compliance

Teacher implementation of the use of specific directives began for each teacher within 2 days of training. Data were collected regarding teacher use of specific directives

and child compliance. During this time, teachers did not receive any further instruction or feedback from the researcher regarding use of directives.

Dyad One. Intervention data for Dyad One were collected over five sessions. Teacher One's use of specific directives ranged from 56.7% to 81.3%. Her mean level of specific directive use was 71.1%. This is a positive change of 30% in the mean percentage of specific directive use from baseline to intervention.

The child's compliance during intervention ranged from 62.2% to 93.8%. The mean percent occurrence of compliance was 75.2%. This represents a positive change of 13.5% in the mean percentage of compliance from baseline to intervention.

Dyad Two. Intervention data were collected over six sessions. Use of specific directives by Teacher Two ranged from 68.8% to 100%. Her mean use of specific directives was 86.1%. This is a positive change of 43.8% in the mean percentage of specific directive use from baseline to intervention.

The child's compliance during intervention ranged from 69.2% to 87.5%. The mean rate of compliance was 78.6%. This represents a positive change of 26.4% in the mean rate of compliance for Child Two from baseline to intervention.

Dyad Three. Intervention data were collected over eight sessions. Use of specific directives by Teacher Three ranged from 71.1% to 92.5% with a mean level of specific directive use of 79.8%. This is a positive change of 41.1% in the mean percentage of specific directive use from baseline to intervention.

The child's compliance during intervention ranged from 58.3% to 88%. The mean rate of compliance was 78%. This represents a positive change of 28.3% in the mean rate of compliance from baseline to intervention.

Dyad Four. Intervention data were collected over five sessions with coaching occurring after the fourth intervention session. Use of specific directives by Teacher Four ranged from 65.2% to 87.5% with a mean level of specific directive use of 77.4%. This is a positive change of 30.3% in the mean percentage of specific directive use.

The child's compliance during intervention ranged from 52.2% to 87.5%. The mean rate of compliance was 69.8%. This represents a positive change of 20.2% in the mean rate of compliance.

Intervention data collection for Dyad Four abruptly ended after the fifth session. Without prior notice to the teacher, Child Four was withdrawn from school. He and his family moved to another area of Gainesville. Child Four was reportedly enrolled in the Head Start program appropriate for the school zone to which the family moved.

Summary. During the intervention phase, the mean use of specific directives increased to 78.6%. This is an increase in the mean use of specific directives of 36.3% from baseline to intervention. All teachers were able to implement the use of specific directives following training, however, one teacher required a coaching session to ensure continued implementation.

As the teachers' use of specific directives increased during the intervention phase, the compliance of their students increased as well. Mean compliance for the participating children increased to 75.4% for an overall increase in compliance of 22.1% from baseline to intervention.

Generalization

Dyad One

Teacher Directed Activity time was selected as the generalization setting.

Generalization data were collected twice during baseline and twice during intervention.

During baseline Teacher One's mean use of specific directives was 38.5% and 48.6% with an average level of specific directive use of 43.6%. The rate of child compliance in the generalization setting during baseline was found to be 26.9% and 45.9% with a mean level of compliance of 36.4%.

Use of specific directions increased in the generalization setting during intervention. Teacher One's use of specific directives during the intervention phase was 53.3% and 68.4% with a mean level of specific directive use of 60.9%. This is a positive change of 17.3% in the mean percentage of specific directives used in the generalization setting from baseline to intervention. The rate of child compliance in the generalization setting during intervention was found to be 60% and 63.2% with a mean level of compliance of 61.6%. This is a positive change of 25.2% in the mean percentage of child compliance in the generalization setting from baseline to intervention.

Dyad Two

Large Group 2 was selected as the generalization setting for Dyad Two. Generalization data were collected three times during the baseline phase and twice during the intervention phase. Teacher Two's use of specific directives in the generalization setting during baseline ranged from 26.7% to 55% with the mean level of specific directive use being 43.9%. The rate of child compliance in the generalization setting during baseline ranged from 20% to 50% with a mean level of compliance of 40%.

Use of specific directions increased in the generalization setting during intervention. Teacher Two's use of specific directives in the generalization setting during the intervention phase was 70% and 91.3% with her mean level of specific directive use being 80.7%. This is a positive change of 36.8% in the mean use of specific directives in

the generalization setting from baseline to intervention. The rate of child compliance in the generalization setting during the intervention phase was found to be 73.9% and 70% with a mean level of compliance of 72%. This is a positive change of 32% in the mean percentage of child compliance in the generalization setting.

Dyad Three

Large Group was selected as the generalization setting for Dyad Three.

Generalization data were collected twice during baseline and twice during intervention. Teacher Three used specific directives 10% and 58.3% of the time during the two baseline generalization sessions. Her mean rate of specific directive use was 34.2%. The rate of child compliance in the generalization setting during baseline was 30% and 66.7% with a mean rate of compliance of 48.4%.

Use of specific directives increased in the generalization setting during intervention although not to the same level as in the intervention setting. Teacher Three's use of specific directives in the generalization setting during the intervention phase was 70.8% and 50% with her mean level of specific directive use being 60.4%. This is a positive change of 26.2% in the mean use of specific directives in the generalization setting from baseline to intervention. The rate of child compliance in the generalization setting during intervention was found to be 58.3% and 37.5% with the mean level of compliance at 47.9%. This is a negative change of .45% in the mean percentage of child compliance in the generalization setting from baseline to intervention.

Dyad Four

Small Group was selected as the generalization setting for Dyad Four.

Generalization data were collected three times during baseline and once during

intervention. Teacher Four's use of specific directives in the generalization setting during baseline ranged from 0% to 50% with the mean level of specific directives being 33.3%. The rate of child compliance in the generalization setting during baseline ranged from 30% to 66.7%. The mean rate of child compliance was 48.9%.

Teacher Four's use of specific directives increased in the generalization setting during intervention. Because Teacher Four frequently modified her classroom schedule, generalization data were collected only once during the intervention phase. The rate of specific directive use in the generalization setting during the intervention phase was 60%. This is a positive change of 26.7% in the mean use of specific directives in the generalization setting from baseline to intervention. Child compliance in the generalization setting during intervention was found to be 80%. This is a positive change of 31.1% in the mean percentage of child compliance in the generalization setting from baseline to intervention.

Summary

Data were taken during the baseline and intervention phases in an untrained setting to determine if teacher use of specific directives would generalize to an additional activity. The mean level of specific directive use across teachers was 36.5% in the generalization setting during the baseline phase. The use of specific directives increased to 65.5% in the generalization setting during the intervention phase. Additionally, mean compliance in the generalization phase was 43.4% during baseline and rose to 65.4% during the intervention phase. This is a 29% increase in the mean use of specific directives and a 22% increase in mean compliance from baseline to intervention.

Administration of the Burks' Behavior Rating Scales (Burks, 1980).

Each teacher evaluated the behavior of her student before the initiation of the study using the BBRS (Burks, 1980). Teachers completed a second BBRS (Burks) following the intervention phase of the research to determine differences in behavior ratings.

Dyad One

In both administrations of the BBRS (Burks, 1980), Child One was judged by the teacher to display significant problems in attention, impulse control, anger control, aggression, social conformity, and resistance. One change was noted in the teacher's rating of intellectuality from the first administration of the BBRS to the second administration. Initially, the teacher's rating of Child One revealed a rating of not significant in the area of intellectuality. However, when completing the rating scale following the intervention phase of the research, the teacher rated this area as a significant problem. Teacher One increased the child's rating score on questions regarding limited vocabulary, inappropriate responses to questions, following directions, and trouble remembering. This resulted in a higher overall score in the area of intellectuality.

Dyad Two

Teacher Two evaluated the behavior of Child Two before the initiation of the study and following the intervention phase of the research. In the first administration, Child Two was judged by the teacher to display significant problems in attention and intellectuality. When completing the scale after the intervention phase, the teacher no longer rated any of Child Two's behaviors as significant.

Dyad Three

In both administrations, Child Three was judged by the teacher to display significant problems in ego strength, physical strength, intellectuality, attention, aggression, and impulse control. A number of changes were noted in the teacher's ratings of other behaviors on the second administration of the BBRS (Burks, 1980). Scores in the areas of self blame, anxiety, suffering, and social conformity were not significant for problems on the first administration but were in the significant range on the second administration. Similarly, scores in the area of aggression increased from the significant range to the very significant range on the second administration. Teacher Three reported problems in the areas of sense of identity, reality contact, and coordination to be less significant on the second administration with ratings changing from very significant to significant. In addition, the rating of significant in the area of dependency was reduced to a level no longer considered significant.

Dyad Four

In the initial administration, Teacher Four rated Child Four's behavior as significant in the areas of suffering, aggressiveness, and resistance. Behaviors rated as very significant were in the areas of anger control, attention, and impulse control. In the second administration, the teacher no longer considered behaviors in the areas of suffering, anger control, and aggressiveness to be significant. In addition, ratings of problems with impulse control changed from very significant to significant. There were no changes in the ratings of resistance and attention. Finally, the teacher increased her rating of behaviors in the areas of self-blame and ego strength. These areas, which were

not rated as significant problems on the initial completion of the BBRS (Burks, 1980), were rated as significant on the second administration.

Maintenance

Eight weeks after the end of the intervention phase, follow-up data were collected to determine if teachers were continuing to use specific directives. Three sessions in the intervention setting and one session in the generalization setting were recorded.

Dyad One.

Three sessions of Small Group (the intervention setting) and one session of Teacher Directed Activities (the generalization setting) were recorded. Teacher One's use of specific directives in Small Group time during the maintenance phase ranged from 63.1% to 69.2% with the mean level of specific directive use being 65.6%. Child compliance in this setting ranged from 56.1% to 84.6% with a mean level of compliance of 79.2%. Data collection during Teacher Directed Activities revealed the rate of specific directive use to be 88.9% and the rate of child compliance to be 69.4%.

Dyad Two

Three sessions of Large Group 1 (the intervention setting) and one session of Large Group 2 (the generalization setting) were recorded. Teacher Two's use of specific directives in Large Group 1 during the maintenance phase ranged from 71% to 85% with the mean level of specific directive use being 79%. Child compliance in this setting ranged from 61.3% to 76.6% with a mean level of compliance of 69.3%. Data collection during Large Group 2, revealed the rate of specific directive use to be 76.3% and the rate of child compliance to be 60.5%.

Dyad Three

Three sessions of Small Group (the intervention setting) and one session of Large Group (the generalization setting) were recorded. Teacher Three's use of specific directives in Small Group during maintenance ranged from 65.4% to 72% with a mean level of specific directive use of 70.3%. Child compliance ranged from 62% to 73.4% with a mean level of compliance of 69.4%. Data collection during Large Group revealed the rate of specific directive use to be 50% and the rate of child compliance to be 83.3%.

Dyad Four

No maintenance data were collected on Dyad Four because Child Four was withdrawn from school and his family moved during the collection of intervention data.

Summary

Eight weeks following the end of the intervention phase, follow-up probes were conducted for three teachers in the intervention and generalization settings. The mean level of specific directive use during the maintenance phase was 71.6% in the intervention setting and 71.7% in the generalization setting. The mean level of compliance was 72.6% in the intervention setting and 71.1% in the generalization setting.

Social Validation Measure

Following the collection of maintenance data, participating teachers were asked to complete social validity questionnaires to obtain their opinions on five questions regarding the investigation. Specifically, the questions targeted the importance, effectiveness, and practicality of using specific directives to improve compliance. The teachers completed each question using a 5-point Likert scale.

All teachers either agreed or strongly agreed that student compliance to directions is important. All teachers strongly agreed that the intervention of using specific directions

was easy to implement. They also strongly agreed that they began using specific directives more frequently as a result of the research. Teachers either agreed or strongly agreed that the use of specific directives improved the compliance of their students. Last, teachers strongly agreed that the use of specific directions by teachers is important.

Summary

The purpose of this research was to determine if teachers holding at least Florida CDA certification would implement the use of specific directives following training, to investigate the effects of using specific directives on compliance in preschool children, and to establish the generalization of the use of specific directives to an untrained setting. The data demonstrate that teachers implemented the use of specific directives following training. One of the teachers received coaching when her level of implementation declined over several sessions. The data also show that when the teachers' use of specific directives increased, there was an increase in the compliance of the children. In addition, the use of specific directives generalized to an untrained setting. Further, 8 weeks after the completion of the intervention phase of the study, three teachers continued to use specific directives at a higher rate than during the baseline phase of the research. Maintenance data were not collected for the fourth teacher.

The results of the social validation measure were favorable. Participants agreed that the intervention was important and easy to implement. They also agreed that the use of specific directives improved the compliance of their students with language and behavior disorders.

CHAPTER 5 DISCUSSION

The purpose of the present study was to determine the effectiveness of an intervention strategy designed to improve compliance in young children with behavior problems and language delays. Children demonstrating behavior difficulties frequently display language delays. The teachers of these children may not be aware of the co-occurrence of these disorders, and they may not modify their instructional language to meet the needs of their students which further compounds the problem. This study examines the effectiveness of a strategy that was developed in consideration of the role that language delay may play in the development and maintenance of behavior problems. The goal of the research was to provide teachers of young children with a strategy to improve the compliance of their students with behavior problems and receptive language delay.

In previous studies, researchers have confirmed that a significant number of children with behavior disorders present language deficits, and a substantial number of children with language delays display behavior problems. A co-occurrence rate of 50% to 80% has been confirmed. Although the rate of coexistence is significant, there is limited research on intervention strategies that consider this interrelation, and most of the available strategies provide intervention for children with expressive language problems. There is a paucity of research which provides strategies for teachers to use to reduce problem behavior in young children with receptive language delays.

Overview of the Study

This study was designed to investigate the effects of increased teacher use of specific directions on compliance in preschool children with language and behavior disorders. The study also examined whether teachers holding Florida CDA certification would implement the use of specific directions following training and whether their use of specific directions would generalize to an untrained setting.

The participants included four teacher/child dyads. The teachers held Florida CDA certification and were employed by the Head Start program in Alachua County, Florida. The children were males ranging in age from 4 years 5 months to 5 years 0 months who displayed receptive language delays as determined through evaluation using the PPVT-R (Dunn & Dunn, 1981) and the PLS-3 (Zimmerman et al., 1992). The children were also judged by their teachers to have behavior difficulties as rated by the BBRS (Burks, 1980).

A single subject, multiple baseline design across subjects was used to evaluate teacher implementation of the use of specific directives, the effects of increased use of specific directives on the compliance of the children, and generalization of the use of specific directives. The researcher began data collection on the behavior of two dyads. Data collection with two additional dyads began several weeks after initiation of the research with the first two pairs.

The study consisted of four phases. The baseline, intervention, and generalization settings for each classroom were identified during the prebaseline phase. During the baseline phase data were collected regarding teacher use of specific directives and child compliance. During the intervention phase teachers attended individual trainings and implemented the use of specific directives. Data were collected regarding teacher use of

specific directives and child compliance. Eight weeks following the end of the intervention phase, the maintenance phase was conducted during which data were collected to determine continued use of specific directions. Throughout the study, probes were conducted in generalization settings. Finally, social validity information was gathered through the completion of a questionnaire by the participating teachers.

Summary of Findings

The results of this study confirm the importance of using specific directives with preschool children exhibiting language and behavior problems. It adds to the literature base that currently offers limited intervention strategies to be used with children who have receptive language difficulties and behavior problems. The use of specific directives was successfully implemented by all of the participating teachers. As teachers increased their use of specific directives, the compliance of their students improved as well. In addition, use of specific directives generalized to an additional setting and was maintained over a period of 8 weeks. Further, completion of the social validity questionnaire revealed that the intervention was easy to implement and was valued by the participating teachers.

Discussion

This study was designed to train teachers in four Head Start classrooms to increase their use of specific directives when instructing their students with receptive language delays and behavior problems and to examine the effects of the use specific directives on compliance in preschool children. The following questions were addressed:

1. Will preschool teachers who hold at least Florida Child Development Associate (CDA) certification increase their use of specific directives following training?
2. What are the effects of increased teacher use of specific directives on compliance in preschool children with language and behavior difficulties?
3. If specific directives increase after training, will the teacher's use of specific directives generalize to an untrained setting?

Training and Teacher Use of Specific Directives

The intervention phase of this study was two-part. First, teachers attended a training which provided an overview of language disorders, information regarding the coexistence of language and behavior problems, and instruction in the meaning and use of specific directives. Second, teachers implemented the use of specific directives in their classrooms. The intervention phase was conducted to determine whether teacher use of specific directives would increase after training and to examine the effects of increased use of specific directives on child compliance.

Professional development literature supports the use of participatory professional development models that include theory, demonstration, practice, feedback, and coaching to assure the ongoing use of instructional procedures (Joyce & Showers, 1980). Several studies conducted with Head Start teachers have demonstrated that this type of training is effective and results in positive classroom practice (Fantuzzo et al., 1996; Caruso et al., 1998). In fact, in a survey requiring Head Start teachers to choose training strategies that promote change on the job, teacher selections of effective practices included follow-up

job assistance, small group discussion, handouts, and demonstration/modeling (Wolfe, 1994).

➤ Consideration of these factors in the development of the teacher training conducted in this research likely contributed to the success of the training. In the trainings, teachers were informed of the coexistence of language and behavior disorders and were provided an overview of language disorders focusing on receptive language delays. The researcher explained the impact receptive language delays could have on understanding and compliance in order to provide teachers with a theoretical basis for the research. The researcher modeled nonspecific and specific directives, and teachers participated in activities designed to provide practice and checks of understanding. Teachers received feedback and participated in discussions with the researcher throughout the trainings. In addition, trainings were conducted in individual sessions at times and locations convenient for the teachers. The trainings resulted in the successful implementation of specific directives by all teachers.

Although teachers increased their use of specific directives after training, Teacher Four required coaching during the intervention phase to ensure continued implementation. The need for coaching by the teacher may reflect her lack of interest in the study and decreased “buy-in”. According to Heller & Thompson (1998), change must emanate from a shared purpose and have value for all of the participants. If a goal has value for only one partner, it will be difficult to secure the full involvement of others. Teachers One, Two, and Three appeared to value the research and expressed a desire to participate in the study. Although they were unsure that using specific directions would make a difference for their students, the teachers each expressed enthusiasm and interest

in determining the effects. They appeared to enjoy being part of the research and desired to be successful at implementing the use of specific directives. Teacher Two placed decorative signs in her room to remind her to use specific directions. She repeatedly reported to the researcher that she was using specific directives with all of her students and that the overall level of compliance in her classroom had improved.

Conversely, Teacher Four voluntarily expressed that she was participating in the research because she felt compelled to do so by administrators. Throughout the research, she conveyed her dislike of being videotaped and her belief that using specific directions would not have an impact on her student. Teacher Four also asked fewer questions and participated less in discussions during training. Clearly, Teacher Four did not feel the present research had value for her or her student, and she did not participate out of an interest or desire to know the outcome of the intervention. As a result she may have been less motivated to participate fully in the implementation and thereby demonstrated a need for coaching.

Although Teachers One, Two, and Three expressed interest and enthusiasm regarding their participation in the study, their specific directive use decreased over time. While specific directives continued to be used at a higher rate than in baseline, the use of specific directives by these teachers decreased during the maintenance phase. This finding supports the need for coaching and follow-up job assistance as integral parts of effective professional development (Joyce & Showers, 1980; Fantuzzo et al., 1996; Caruso et al., 1998). After training, these teachers received no further coaching or assistance from the researcher. It is probable that specific directives would have been used at a higher rate during the intervention phase and particularly during the

maintenance phase had coaching been implemented and feedback given throughout the study.

The intervention of training teachers to use specific directions unexpectedly resulted in a large reduction in the number of directions given by several teachers during the intervention phase. During training, the teachers were made aware of the number of directions that they used but were not advised to alter the number of directions given to their student. It was anticipated that the number of directions would vary from setting to setting. However, for some teachers the number of directions provided during baseline was greatly reduced following training. For instance, the average number of directions used per 20-minute session by Teacher One during baseline was 25. She used as many as 46 directions in a single session. Following training, Teacher One used an average of 15 directions per 20-minute session. There was a significant reduction in the number of directions provided to the student which could have improved the child's ability to process and act on the directions presented and may have contributed to improved compliance.

Effects of Increased Use of Specific Directives on Compliance

This research demonstrates that teacher use of specific directives when instructing students with language and behavior problems is important. The compliance of all of the participating students improved when their teachers increased their use of specific directives. Changes in the students' levels of compliance occurred at the points at which their teachers began using specific directions, and the magnitude of the change was substantial. Additionally, the students with the greatest increase in overall compliance

were instructed by the teachers with the highest mean increase in specific directive use. Further, compliance appeared to vary consistently with specific directive use.

There were several instances, however, when compliance and specific directive use did not vary as expected. During Session 12 and during generalization probes, the level of specific directive use by Teacher Three increased. It would be expected that compliance would increase as well, however, compliance dropped appreciably. Similarly, Session 12 for Dyad Four varies irregularly. Specific directive use decreases slightly which would lead to a slight drop in compliance, however, a marked decrease in compliance is seen. In these sessions, the teachers directed their students to participate in tasks judged by the researcher to be too difficult for the children based on their developmental levels. For example, in several of these sessions children were instructed to clap the syllables of multisyllabic words ranging in length from three to six syllables. Although the directions were stated specifically, the tasks were too difficult to be completed successfully by the children. Child Three, who relied heavily on watching other children to determine how to follow directions, simply clapped. Child Four, on the other hand, refused to attempt the clapping out of the syllables of any words. Kaler and Kopp's (1990) assertion that noncompliance may reflect a lack of understanding of adult expectations is supported by the actions of these children. Indeed, successful preschool programs should "adapt curricula to meet the needs of children with a wide range of differences in skills, learning styles, backgrounds, and potential" (Cook, Tessier, & Klein, 1992, p. 34). Not matching the complexity of the activities to the students' learning abilities may have resulted in aversive situations and behavior difficulties (Harrison et al., 1996).

Generalization of Specific Directive Use

The present study was also designed to evaluate the generality of responses across conditions. Generalization was evaluated using probes conducted every third session or as soon thereafter as possible. According to Kazdin (1982) probe assessment provides a preview of what can be expected beyond the conditions of the training. In this research, it was hoped that teacher use of specific directives following training would carry over to untrained settings.

Teacher use of specific directives generalized to an untrained setting for each dyad. Although specific directive use in the generalization settings did not rise to the same level as in the intervention phase, the amount of the increases were similar. In other words, in generalization settings where the use of specific directives did not increase to the same level as in the intervention setting, the amount of change was similar because the use of specific directives was lower in the generalization setting during baseline.

Changes in Ratings of Behavior Using the BBRS (Burks, 1980)

Each teacher evaluated the behavior of her student before the initiation of the study using the BBRS (Burks, 1980). Teachers completed a second BBRS (Burks) following the intervention phase of the research to determine differences in teachers' perceptions of their students' behavior after intervention. Findings resulting from the re-administration of the BBRS (Burks) were ambiguous.

Teacher One's rating of Child One changed slightly in that her rating of behaviors in the area of intellectuality was increased. It is possible that this occurred because the teacher gained more knowledge as a result of teacher training. She may have increased her ratings in the areas of vocabulary, responses to questions, following directions, and

trouble remembering as a result of her better understanding of Child One's language difficulties.

On the second administration of the BBRS (Burks, 1980), Teacher Two no longer rated any of Child Two's behaviors as significant. Previously she had rated behaviors in the areas of attention and intellectuality as significant. Teacher Two may have considered the intervention provided in this study to be effective in addressing the behavioral needs of her student. The data support this belief by demonstrating substantial changes in Child Two's level of compliance. Additionally, Teacher Two appeared to recognize that her behavior impacted her students and as a result may no longer have considered Child Two to have significant behavior difficulties.

The behavior ratings of Children Three and Four by their teachers varied greatly from the first administration to the second. The teachers increased their ratings of many behaviors and reduced their ratings of others. These teachers viewed the behaviors of their students as more severe than Teachers One and Two and rated the children's behaviors as significant in a larger number of domains. The teachers' perceptions of the children's behavior may have changed due to their increased knowledge following training or may have varied as a result of changes in student compliance. As with all of the participating children, changes in the ratings of these children may have reflected changes in the children's behavior in additional classroom settings or outside the classroom.

One important point of interest stemming from the administration of BBRS (Burks, 1980) is that all teachers rated the area of attention as a significant behavioral concern for their students. No other area was rated by all four teachers as significant. Research

delving into the issue of the coexistence of language and behavior problems consistently demonstrates that children with language disorders and behavior problems display difficulties maintaining attention and are often diagnosed with attention deficit disorders (Baker & Cantwell, 1982; Beitchman et al., 1986; Cantwell et al., 1979; Gualtieri et al., 1983; Love & Thompson, 1988). The teachers' beliefs that their students have difficulty maintaining attention concur with the findings of previous research in this area.

Social Validity

Social validity refers to the social importance and acceptability of treatment goals, procedures, and outcomes (Foster & Mash, 1999). In order for an intervention to be implemented and its use maintained, individuals involved must be satisfied with the effects of the intervention, believe the intervention produces an important outcome, and be able to implement the intervention without undue difficulty.

A social validation questionnaire was administered to determine the importance and acceptability of this research. The teachers indicated that they felt the intervention was important and easy to implement. They agreed that the use of specific directives improved the compliance of their students with language and behavior disorders. Further, they agreed that they were using specific directives more frequently as a result of the intervention and that the use of specific directions by teachers is important. The teachers' attitudes toward the acceptability and importance of this research and its ease of implementation may have contributed to the implementation and maintenance of the use of specific directives.

Limitations

A number of factors may have confounded the findings of this study and should be considered when interpreting the results. The researcher found that even when presented using specific directions, many tasks given to the students were too difficult for them to accomplish. For example, one teacher often told her student to write his name which he was clearly unable to do. Other students were asked to clap out the syllables in multisyllabic words. Asking the students to complete tasks that were above their developmental level often resulted in noncompliance and complete refusal to cooperate with the teacher. The level of difficulty of the tasks appeared to affect the compliance of students on a number occasions.

The use of the BBRS (Burks, 1980) to measure variations in the teachers' perceptions of changes in their students' behavior was an additional limitation. The BBRS (Burks) is a global measure of behavior. It is designed to identify patterns of problem behavior through teacher indication of how often a behavior is observed. Use of the BBRS (Burks) to measure changes in teachers' perceptions was not an intended use of the instrument. Using the instrument in this capacity revealed differences that were unclear in significance.

The findings of this study were also influenced by attrition. Child Four was unexpectedly withdrawn from school during the intervention phase. The collection of intervention data could not continue nor could maintenance data be collected for Dyad Four. This loss of opportunity to collect data is a limitation of the research.

An additional limitation may have resulted from the presence of the researcher and the use of a video camera in the classrooms. The teachers may have been reminded to use

specific directives in the generalization sessions as well as during the maintenance probes by the presence of the researcher. It is not possible to know if the teachers implemented the use specific directions in these settings when the researcher was not present. Additionally, the presence of the video camera in the classroom may have altered the behavior of the teachers and children.

Implications

The results of this study provide evidence that increasing teacher use of specific directives improves the compliance of preschool children with language delays and behavior difficulties. The use of specific directives was successfully implemented by all of the participating teachers following training and had a positive effect on the compliance of the children. The intervention was generalized to an additional setting and was maintained over a period of 8 weeks. Further, the social validity questionnaire revealed that the intervention was easy to implement and was valued by the participating teachers. The research adds to the literature base that currently offers limited intervention strategies to be used with children who have receptive language difficulties and behavior problems. It has several implications for parents, teachers, and other related service personnel such as speech pathologist who must be aware of the coexistence of language and behavior difficulties and consider this in the evaluation and treatment of children. It also presents implications for future research.

Professional Practice

Given the likelihood of the co-occurrence of these disorders, young children displaying behavior problems should undergo screening of language skills, and children with language disorders should be assessed for the presence of behavior problems.

According to Feil, Walker, Severson, and Ball (2000), early intervention is essential to stop the progressive course of emotional or behavioral problems. However, for early intervention to be effective, the right children must be targeted for services through appropriate screening and identification. This is particularly important in settings such as Head Start where children are at increased risk for behavioral problems and language delay (Kaiser et al., 2000). In this research, the first four children identified by their teachers as having behavior problems and possible language delays demonstrated scores 1 to 2 standard deviations below the mean on language evaluation instruments. These children had not been identified as having language or behavior difficulties and were receiving no specialized intervention.

In addition to implications for evaluation, the interrelation of language and behavior has numerous implications for intervention. Gallagher (1999) suggests that children with co-occurring language and behavior problems may best be served by a team approach. Teachers, speech pathologists, parents, and other appropriate professionals should work together to determine the best intervention plans for children with behavior and language difficulties. Speech pathologists may be able to help parents and teachers understand the likelihood of co-occurrence and how language problems may contribute to behavior difficulties. Teachers may enhance language-building activities in the classroom and share with the parents ideas for stimulating language development in the home. This study demonstrates the importance of decreasing the complexity of language used with young children by providing clear, specific directions. Professionals may provide feedback to one another and to parents regarding their language use and ways to modify their instructions. It is critical that all appropriate individuals collaborate to develop

effective interventions that consider the language and behavior needs of the children they serve.

Future Research

This study establishes that Head Start teachers holding Florida CDA certification can learn to recognize and increase their use of specific directions. However, it does not establish whether the intervention could be successfully taught to and used by teachers with different credentials, paraeducators, related service personnel, or by parents. Future research should be conducted to determine if persons without education credentials or with certification in areas such as speech/language intervention will use specific directives following training. In addition, research should be conducted to determine the effect of using specific directives with children in other settings such as homes, childcare centers, or resource classrooms. Future research should also investigate the effectiveness of this intervention with children who demonstrate characteristics or disabilities different than those of the children participating in the study including children with behavior disorders whose language development is not delayed.

Additionally, only the use of specific directives was examined in this study. Further research is needed to explore the effects of factors such as changes in task complexity and frequency in the provision of directions on compliance. During the investigation, the researcher noted that these factors appeared to influence compliance during some activities. Further research should also be conducted to determine additional effective intervention strategies which consider the interrelation of language and behavior.

Last, the use of specific directives by teachers participating in this study generalized to an untrained setting. The researcher did not examine whether specific directive use

generalized to other children in the classroom. Additional research should examine whether teachers implement the use of specific directives with additional children in their classrooms following training and what effect this may have for these children and overall classroom behavior.

APPENDIX A

CONSENT FORMS



**University of Florida
Department of Special Education
P.O. Box 117050 / G-315 Norman Hall
Gainesville, FL 32611-7050**

Teacher Consent

**Protocol Title: Increasing the Use of Specific Directives to Improve Compliance
In Preschool Children with Language and Behavior Difficulties**

Read this consent document carefully before you decide to participate in this study.

Purpose of the research study:

The purpose of this study is to determine if trained preschool teachers who hold at least Florida Child Development Associate (CDA) certification will modify their use of instructions following training and to examine the effects of the use of specific instructions on compliance in preschool children.

What you will be asked to do in the study:

You will be asked to complete a behavior rating scale on the participating student prior to the beginning of the study and when the study is completed.

You will be asked to attend an individual training which will provide an overview of language disorders. As part of the training you will be asked to participate in a written assessment of your understanding of specific vs. general instructions and you will be asked to verbally provide examples of both types of instructions. You will also be asked to work with the primary investigator to identify tasks typically carried out in your classroom and to develop specific instructions that can be integrated into the tasks. (For example, in a painting task, specific instructions might include, "put on your smock", "get a paintbrush", etc.). You may be asked to participate in a follow-up training session which will consist of a review of material presented in the initial training. Following training in this intervention, you will use the strategies that you have learned in activities regularly conducted in your classroom. Twenty-minute sessions will be attended by the primary investigator or research assistant daily for up to one year for the purpose of data collection and videotaping.

Time required:

Four hours of initial training, up to four hours of follow-up training as needed, daily 20 minute sessions for up to one year

Risks and Benefits:

This study poses no risks. The potential benefits include learning an effective strategy for improving compliance in young children with behavior and language difficulties, facilitating appropriate skills and behaviors in the classroom, and increasing knowledge and skills.

Compensation:

There will be no compensation for participation.

Confidentiality:

Although results of the study will be shared with colleagues in the field of education, for the purpose of confidentiality, your name and identity will be kept confidential to the extent provided by law. Videotapes will be coded during the study and may be viewed by the primary investigator (Alice Kaye Emery), a graduate assistant, and member of the primary investigator's doctoral committee (Dr. Hazel Jones, Dr. Vivian Correa, Dr. Maureen Conroy, and Dr. Doreen Blischak). The videotapes will be destroyed when the study is completed.

Voluntary participation:

Your participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study:

You have the right to withdraw from the study at anytime without consequence.

Whom to contact if you have questions about the study:

Alice Kaye Emery, Doctoral Student, Department of Special Education, G-315 Norman Hall, 392-0701 ext 295

Hazel Jones, PhD., College of Education, G-315 Norman Hall, 392-0701 ext. 252

Whom to contact about your rights as a research participant in the study:

UFIRB office, Box 112250 University of Florida, Gainesville, FL 32611-2250; 392-0433

Agreement:

I have read the procedures described above. I voluntarily give my consent to participate in Alice Kaye Emery's study of the use of specific directives to improve compliance. I have received a copy of this description.

 Teacher

 Date

 Witness

 Date

**University of Florida
Department of Special Education
P.O. Box 117050 / G-315 Norman Hall
Gainesville, FL 32611-7050**

Parental Consent

Protocol Title: Increasing the Use of Specific Directives to Improve Compliance
In Preschool Children with Language and Behavior Difficulties

Read this consent document carefully before you decide to allow your child to participate in this study.

Purpose of the research study:

The purpose of this study is to see if trained preschool teachers will use specific instructions in their classrooms and to examine whether preschool children follow specific instructions better than general instructions.

What your child will be asked to do in the study:

Prior to beginning the study, your child's language skills will be evaluated by a certified speech language pathologist using the Preschool Language Scale-3 and the Peabody Picture Vocabulary Test - Revised. In addition, your child's teacher will complete a behavior rating scale prior to the beginning of the study and when the study is completed. Your child's teacher will be asked to attend training where she/he will learn to use specific instructions in several typical classroom activities. As your child's teacher changes the way she instructs your child, we will observe and videotape your child to see if he/she follows instructions better. Observations and videotaping will occur daily for 20 minutes per session for up to one year. Activities are those regularly conducted in the classroom. Your child will not be removed from the class nor will his/her classroom schedule be changed.

Time required:

100 minutes per week (Five 20-minute sessions)

Risks and Benefits:

This study poses no risks. The potential benefits include helping your child and his/her teacher develop strategies that help children follow instructions, thus providing more opportunities for learning. In addition, the results of language testing will be provided to you upon request. These results may be used to pursue special services for your child through your district's public school system.

Compensation:

There will be no compensation for participation.

Confidentiality:

Although results of the study will be shared with colleagues in the field of education, for the purpose of confidentiality, your child's name and identity will be kept confidential to the extent provided by law. Videotapes will be coded during the study. Videotapes and evaluation protocols may be viewed by the primary investigator (Alice Kaye Emery), a graduate assistant, and member of the primary investigator's doctoral committee (Dr. Hazel Jones, Dr. Vivian Correa, Dr. Maureen Conroy, and Dr. Doreen Blischak). The videotapes and protocols (if not requested by you) will be destroyed when the study is completed.

Voluntary participation:

Your child's participation in this study is completely voluntary. Participation or nonparticipation will not affect your child's placement in any programs.

Right to withdraw from the study:

You and your child have the right to withdraw from the study at anytime without consequence.

Whom to contact if you have questions about the study:

Alice Kaye Emery, Doctoral Student, Department of Special Education, G-315 Norman Hall, 392-0701 ext 295

Hazel Jones, PhD., College of Education, G-315 Norman Hall, 392-0701 ext. 252

Whom to contact about your rights as a research participant in the study:

UFIRB office, Box 112250 University of Florida, Gainesville, FL 32611-2250; 392-0433

Agreement:

I have read the procedures described above. I voluntarily give my consent for my child to participate in Alice Kaye Emery's study of the use of specific directives to improve compliance. I have received a copy of this description.

 Parent

 Date

 Witness

 Date

University of Florida
Department of Special Education
P.O. Box 117050 / G-315 Norman Hall
Gainesville, FL 32611-7050

Assent

Protocol Title: Increasing the Use of Specific Directives to Improve Compliance
In Preschool Children with Language and Behavior Difficulties

Hello _____ (Child's name). My name is Alice Kaye Emery and I am a student at a big school in Gainesville called the University of Florida. I am here to show your teacher a new way to tell you to do things when she is teaching you. While she teaches you, either I or another person will be watching and making a movie of your teacher and you to see if the new way she tells you to do things is a good way or not a good way. You do not have to let us watch you and make a movie of you if you do not want to, and you can tell us to stop any time. Nobody will be mad at you if you do want to be watched or if you do not want us to make a movie of you. If you do not want to do this you can still be a part of all of the things that your class does. Can we watch you and make a movie of you in class while your teacher tells you to do things in a different way?

_____ (Child's name) gave oral assent to participate in Alice Kaye Emery's study of the use of specific directives to improve compliance.

Alice Kaye Emery

Date

Witness

Date

APPENDIX B

DATA COLLECTION FORM AND CODING GUIDE

Data Collection Sheet

Date: _____ Collector: _____

Location: _____ Session: _____

| Occurrence | Teacher/Student Behavior | | | | | |
|------------|--------------------------|-----|------|------|-----|------|
| 1 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 2 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 3 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 4 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 5 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 6 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 7 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 8 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 9 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 10 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 11 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 12 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 13 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 14 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 15 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 16 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 17 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 18 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 19 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |
| 20 | GDNC | GDC | GDNO | SDNC | SDC | SDNO |

Coding Guidelines

Code as Specific Directives

One step commands stating action to be taken

- Wash your hands, please.
- Sit on your name.
- Wait just one minute.

Directions which include a physical prompt or gesture (Teachers will be asked to refrain from using prompts and gestures.)

- Ryan, quiet. (finger to lips to be quiet)
- Sit. (pointing to floor)

Specific directions provided to the whole class or a group

- Line up at the door.
- Sit on your names.
- Put the blocks on the shelf.

General Directives followed immediately by a specific directive (Teacher states specific directive before child has opportunity to comply with general directive.)

- You are not supposed to go near John. Move away from John.
- The scissors are not available today. Do not get the scissors down.
- We are not supposed to run on the playground. Stop running.

Code as Nonspecific or General Directives

Two step directions (Compliance is counted if both directions are followed.)

- Go wash your hands and then sit down.
- Put the toy away and then come back to circle.

Nonspecific directions provided to the whole class

- Be good listeners.
- Help me by using your hands to tell the story while I read.

Implied directions

- Let me see who is listening.
- I want to read the story please.
- We don't run on the playground.

Directions that do not name a specific action

- Stay in control.
- Get ready to go outside.
- Clean up your area.
- Not yet.

Directions in which the wording is awkward or confusing

- Use your walking feet.
- Find your bottom and sit on it.

Directions given in question form

- Could you go wash your hands, please?
- Can you put this by the water table?

Code as Compliant: Child completes the direction accurately.

Code as Noncompliant: Child does not complete the direction accurately or only partially complies.

- If an activity lasts 12 or more minutes, only the activity will be used for data collection. If the activity lasts less than 12 minutes, videotaping will continue into the following activity for up to 20 minutes.
- Directives given by individuals other than the teacher will not be counted in data collection.
- Directives provided to the child or to the class and applicable to the child will be coded. Directives provided to other children or to the class but not applicable to the child will not be coded. For example, if the teacher directs everyone to sit down but the target child is already sitting, the directive is not coded.

-

APPENDIX C

TEACHER TRAINING GUIDELINES AND FORMS

Teacher Training

Researcher Guide to Components

Overview of language disorders

- Expressive language delay
 - Explanation
 - Child characteristics
- Receptive language delay
 - Explanation
 - Child characteristics
- Co-occurrence of language and behavior disorders

Meaning and use of specific and nonspecific directions

- Definition of terms
- Examples of both specific and nonspecific directions modeled and explained
- Teachers verbally explain difference between specific and nonspecific directives
- Teachers identify listed directives as either specific or nonspecific with 90% accuracy (Evaluation 1)
- Teachers verbally supply examples of nonspecific directives and model specific directives that could be substituted with 90% accuracy (Evaluation 2)

Planning of tasks

- Review the activity chosen to be used in the intervention phase
- Plan a number of tasks to be carried out within the activity
- Collaborate to develop six specific directives that can be integrated into the tasks

Teacher Training**Evaluation 1**

Label the listed directives as either specific directives or nonspecific directives.

1. _____ Clean up your area.
2. _____ Why don't we sit on our mats?
3. _____ Put the blocks in the basket.
4. _____ Put on a smock.
5. _____ Let me see who is listening.
6. _____ Wash your hands, please.
7. _____ Hang your coat on the hook.
8. _____ Please wait.
9. _____ Get ready for lunch.
10. _____ I want to read the story, please.

Teacher Training**Evaluation 2**

List 8 nonspecific directives and provide specific directives that could be substituted for the nonspecific directive.

1. Nonspecific Direction

Specific Direction Substituted

2. Nonspecific Direction

Specific Direction Substituted

3. Nonspecific Direction

Specific Direction Substituted

4. Nonspecific Direction

Specific Direction Substituted

5. Nonspecific Direction

Specific Direction Substituted

6. Nonspecific Direction

Specific Direction Substituted

7. Nonspecific Direction

Specific Direction Substituted

8. Nonspecific Direction

Specific Direction Substituted

Teacher Training
Activity Planning Sheet

Activity Used

Tasks and Directives

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5. _____

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- _____
- _____
- _____

APPENDIX D

SOCIAL VALIDITY QUESTIONNAIRE



Social Validity Questionnaire

Read each statement carefully. Five possible choices as to your level of agreement and disagreement have been placed after each statement. For each of the statements, please circle the phrase that best describes your feelings about the statement. Circle only one phrase for each statement. Please be sure to answer every item.

1. Student compliance to directions is important.

I strongly agree. I agree. I neither agree nor disagree. I disagree. I strongly disagree.

2. The intervention (using specific directions rather than general) was easy to implement.

I strongly agree. I agree. I neither agree nor disagree. I disagree. I strongly disagree.

3. As a result of this intervention, I began using specific directions more frequently than I had before the intervention.

I strongly agree. I agree. I neither agree nor disagree. I disagree. I strongly disagree.

4. Using specific directives improved the compliance of the student.

I strongly agree. I agree. I neither agree nor disagree. I disagree. I strongly disagree.

5. The use of specific directions by teachers is important.

I strongly agree. I agree. I neither agree nor disagree. I disagree. I strongly disagree.

APPENDIX E

PILOT STUDY DATA

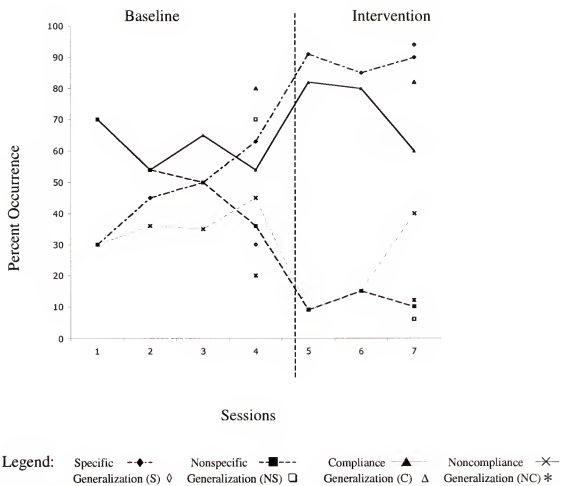


Figure E-1: Pilot Data

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BIOGRAPHICAL SKETCH

Alice Kaye Ford Emery was born on August 19, 1964. She lived with her parents and older brother and sister in Quincy, a small town in north Florida. She graduated from Robert F. Munroe School in 1982 and attended Tallahassee Community College and Florida State University. She received a bachelor's degree in 1986 in speech pathology and audiology and a master's degree in speech pathology in 1987. From 1988 to 1999, Alice Kaye worked as a speech pathologist in the public schools in Georgia and Florida and as a consultant for the Dick Howser Center for Childhood Services, Sunland Center, and the Dozier School for Boys.

Alice Kaye began her doctoral program at the University of Florida as a full-time student in 1999. Her major areas of study included early childhood special education and language disorders. While completing her doctoral studies she has instructed courses, supervised students, and served as an assistant to the graduate coordinator of the Department of Special Education. She is currently project coordinator of the University of Florida/Springs Region Comprehensive System of Personnel Development Professional Development Partnership.

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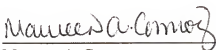
Hazel A. Jones, Chair
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